ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1982

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

NINETY-SEVENTH CONGRESS

FIRST SESSION

ON

H.R. 4144

AN ACT MAKING APPROPRIATIONS FOR ENERGY AND WATER DEVELOPMENT FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1982, AND FOR OTHER PURPOSES

PART 3—(Pages 1575–2613)

NONDEPARTMENTAL WITNESSES

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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1982

MONDAY, MARCH 23, 1981

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 10 a.m. in room 1318, Everett McKinley Dirksen Senate Office Building, Hon. Quentin N. Burdick presiding.

Present: Senators Mattingly, Stennis, Huddleston, Burdick, and Sasser.

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Senator BURDICK [presiding]. The subcommittee will come to order.

In the absence of the chairman of the subcommittee, Senator Hatfield, I have been requested as a member of the subcommittee to preside over today's session. Senator Hatfield expresses his regrets that he could not be here with us this morning.

We have a large number of witnesses that wish to be heard. Therefore, in accordance with our notification to each of the witnesses, it will take some self-restraint on the part of everyone to hold their oral testimony to a minimum in order that all who have requested to testify may be heard. So, in keeping with the subcommittee's wishes, I ask that the detailed prepared statements that each of you worked on very carefully be submitted for the record.

At this time, without objection, I ask that all of your prepared statements be made a part of the record. That is the record that the subcommittee will study in determining it's judgment and recommendation for the upcoming year. Also, in this way we will have a careful detailed record so that those members who are not present will be able to arrive at an independent judgment. If each person would summarize or highlight the important parts in his oral testimony, it will be helpful.

INTRODUCTION OF WITNESSES

It is a distinct pleasure for me this morning to welcome the first set of witnesses. It is an opportunity for me today to welcome Allen Olson, Governor of North Dakota, and Charles Richter, chairman of the Garrison Diversion Conservancy District, who will be testifying on the project that this subcommittee and Congress have supported for almost 20 years.

The most recent indication of support is a resolution passed by the North Dakota State Legislature which endorses a phased development of the project and urges the Secretary of Interior to seek consultations with Canada.

Without objection, a copy of the resolution will be entered into the record of today's hearings.

[The resolution follows:]

FORTY-SEVENTH LEGISLATIVE ASSEMBLY, STATE OF NORTH DAKOTA BEGUN AND HELD AT THE CAPITOL IN THE CITY OF BISMARCK, ON TUESDAY, THE SIXTH DAY OF JANUARY, ONE THOUSAND NINE HUNDRED AND EIGHTY-ONE

SENATE CONCURRENT RESOLUTION NO. 4038

A concurrent resolution urging the United States Secretary of the Interior to proceed with phased construction of, and to seek consultations on, the authorized Garrison Diversion Unit.

WHEREAS, the Garrison Diversion Unit is authorized and funded as a multipurpose water resource development project; and

WHEREAS, the Garrison Diversion Conservancy District has adopted a program for phased development of the project as authorized, with the initial construction of 5,000 acres of irrigation features within the James River Basin; and

WHEREAS, this program of phased development includes a cooperative research and monitoring program consistent with the International Joint Commission's recommendations for conditions precedent to proceeding with project construction; and

WHEREAS, consultations between the United States and Canada have been proposed to discuss certain features of the Garrison diversion project;

Now, therefore, be it resolved by the Senate of the State of North Dakota, the House of Representatives concurring therein:

That the Forty-seventh Legislative Assembly supports phased development of the authorized and funded Garrison Diversion Unit and urges the United States Secretary of the Interior to proceed with its construction; and

Be it further resolved, that the Secretary of Interior is urged to recommend that any consultations with Canada concern the features of the authorized 250,000 acre unit; and

Be it further resolved, that copies of this resolution be forwarded by the Secretary of State to the North Dakota congressional delegation, the U.S. Secretary of the Interior, and the Governor of North Dakota.

ERNEST M. SANDS,
President of the Senate.
LEO LEIDHOLM,
Secretary of the Senate.
——— ———,
Speaker of the House.
ROY GILBREATH,
Chief Clerk of the House.

Senator BURDICK. It is a pleasure to welcome you, Governor, and Mr. Richter, to the committee.

You may proceed in any way you wish.

Governor OLSON. Senator, would you prefer I proceed or would you prefer Senator Andrews proceeds? I defer to Senator Andrews.

Senator BURDICK. That is very kind.

The Governor of North Dakota will yield to the Senator from North Dakota. [Laughter.]

Governor OLSON. Don't I always? [Laughter.]

GARRISON DIVERSION UNIT, NORTH DAKOTA

STATEMENT OF HON. MARK ANDREWS, U.S. SENATOR FROM NORTH DAKOTA

Senator Andrews. I am glad to join my senior colleague, Senator Burdick, in welcoming our Governor.

As everyone in North Dakota knows, Garrison Diversion Conservancy District is run by a locally elected board of directors elected by each county. It has enjoyed this type of local grassroots support and enjoyed the support of Governors and every Member of the congressional delegation from North Dakota over the last two decades. It is a very necessary project for North Dakota. As a matter of fact, our State government, way back in territorial days memorialized the Congress, more than 100 years ago, to move Missouri River water east. Why? Because they recognized then the environmental problems we had in North Dakota because of the recurrently increasing low stream flows in the river systems. In the eastern two-thirds of the State, the James, the Cheyenne, and the Red simply stopped flowing in frequent summers during drought periods. The only source of adequate supply of stream flow for those rivers was sensed in those early territorial days to be the Missouri.

And so we gave up half a million acres of prime farmland—to be flooded out so downstream States could have the flood protection, so they could get the power generated, so they would have adequate supply of water for their barge traffic.

The quid pro quo for North Dakota was developing this project to move water to the eastern part of the State to provide that much-needed adequate stream flow of water for our cities and villages.

Also, Mr. Chairman, I might point out, as you know so well, it is a great project from the standpoint of the enhancement of waterfowl. In the 1930's, when we had a drought, the Central Flyway breeding crop of waterfowl was decimated. There are some who would argue artificial habitat is not as good as natural habitat. That is true, but when it doesn't rain, artificial habitat is better than no habitat at all.

The Garrison diversion unit is a good project for these two reasons. It gives us the adequate stream flow we need so badly and it enhances our waterfowl population. The third reason, of course, for Garrison, is the irrigation of some 250,000 acres of land to provide an adequate food supply.

I am proud to join my colleague, the senior Senator from North Dakota, who has done such a fantastic job over the years in support of this project, in welcoming our Governor and the chairman of our conservancy district here.

I just want our colleagues in the Senate to know we totally support their support of this much-needed and long-awaited project for the State of North Dakota.

I thank the senior Senator for yielding to me and the Governor.

Senator Burdick. I would like to have the record note the presence of Homer Englehorn, who is the manager of Garrison Conservancy

District. I don't believe he will be testifying, but the record should reflect his presence here today.

Governor, you may proceed.

Garrison Diversion Unit

STATEMENT OF HON. ALLEN OLSON, GOVERNOR OF NORTH DAKOTA

ACCOMPANIED BY:

CHARLES RICHTER, CHAIRMAN, GARRISON DIVERSION CONSERVANCY DISTRICT

HOMER ENGLEHORN, MANAGER, GARRISON DIVERSION CONSERVANCY DISTRICT

BIPARTISAN POLITICAL SUPPORT

Governor Olson. Thank you very much.

As you requested, in the interest of time, I will set aside my written testimony and highlight two points.

First, as you both are aware, I have appeared before this body and others in the past as a Republican attorney general from North Dakota, along with Governor Link, who was the Democratic Governor at that time. We continue to share total support of completion of the Garrison diversion project.

I wish to point out the fact that bipartisan support continues in the State of North Dakota, as indicated by the legislative resolution which you have before you.

CANADIAN CONCERNS

The second point I would like to highlight is a confirmation of the serious concern of North Dakotans and officials in North Dakota for the interests of our Manitoba and Canadian neighbors. We have recommended a phased construction format so that the completion of the project can be monitored closely and those actions that can be taken to protect the quality of the water across international boundaries can be monitored.

We believe we will continue to discuss with our Canadian neighbors the merits of that approach to what I think will be convincing and persuasive.

With the highlight of those two points, Senator, you have my testimony, and I would ask Mr. Charles Richter, who is the chairman of the Garrison Conservancy Board, to present his testimony.

As you both have indicated, this is a locally elected board which administers this project and it enjoys substantial support of the people they represent.

Thank you, again, Senator.

Senator Burdick. Thank you, Governor.

Mr. Richter?

STATEMENT OF CHARLES RICHTER, CHAIRMAN, BOARD OF DIRECTORS, GARRISON DIVERSION CONSERVANCY DISTRICT

Mr. RICHTER. Mr. Chairman, I am Charles Richter of North Dakota. I am chairman of the board of directors and the only person authorized by the governing body of the Garrison Diversion Conservancy District to present the views of the district to this subcommittee.

I appear here today in support of an appropriation of $11 million for the Garrison diversion unit for fiscal year 1982. This sum represents an increase of $7 million above the amount contained in the administration's budget request for this activity.

My board of directors, and indeed the vast majority of the citizens of the district and the State, support President Reagan's ideas with respect to Federal spending, particularly his plans for reducing outlays on programs that make no contribution to our economic strength. However, we do not feel that cutting back on resource development programs to inefficient levels of operation are helpful to the Nation's overall economy. Programs such as the Garrison diversion unit increase the tax base, strengthen local government's ability to function without Federal assistance, and ultimately return their cost to the Treasury many times over. So, Mr. Chairman, we see no paradox in our position of supporting overall reduction of the budget while supporting very modest increases in our own line item.

For the last 4 years, our project has been the whipping boy of an administration which was overtly hostile to resource development programs.

PROJECT STATUS

In fiscal year 1981, the administration did not request a single dollar for our project and, in fact, tried to transfer away our carryover from previous years. We did not seek add-on funds, but we did solicit and receive your support in restoring the transfers.

The conservancy district deeply appreciates your assistance in that effort and, needless to say, we also appreciate your help in prior years.

Mr. Chairman, we understand what the Carter administration was trying to do in undertaking to kill our project although we do not quite understand why. In like manner, we understand what President Reagan is trying to do when he limits our funding to $4 million. But, it does little or no good for this administration to express support and sympathy with our program unless that sympathy is backed up with dollars.

Please don't overlook the fact that reduction-in-force notices have been given to numerous employees of the Water and Power Resources Service now working on our project and they will be long gone by this time next year if we don't get enough money from Congress to keep operations going.

The sum which we are requesting will enable a start of construction on Lonetree Reservoir and the New Rockford Canal in fiscal year 1982. These are the key features of a first stage development of some 80,000 acres that can be served without impacting on Canadian streams in any way whatsoever. The district supports this stage approach to development while consultations are continuing with our Canadian neighbors.

With respect to such consultations, we have always believed that they could be conducted in a way as to reach understanding that would enable continuation of the authorized project. Now we believe that the administration is on our side in this matter and will indeed throw its considerable influence behind a resolution that is satisfactory to the vast majority of the citizens of North Dakota. Things have not been that way lately.

In a similar vein, there are encouraging signs that we can reach an understanding with Federal fish and wildlife officials on the troublesome issue of mitigation lands. We are also hopeful that this administration will work more closely with us in settling some of the harassing litigation that has been filed against the project.

In short, Mr. Chairman, there is an air of reawakening regarding Garrison, and people are beginning to have their dwindling hopes renewed. An additional $7 million would enable us to take advantage of this new spirit and to move forward.

Realistically, we cannot expect to make up for the time we have lost in the last 4 or 5 years, but we can, hopefully, not lose any more.

Just one final word about local support. As you know, the Garrison diversion unit has always enjoyed strong bipartisan support from all of the important statewide elected officials. You will be interested to know that the same degree of support is forthcoming from the team elected last fall. If this is unique, Mr. Chairman, I suggest that there is a reason for it. That is, simply stated, the people support it and it behooves the elected officials to do likewise.

PHASED PROJECT DEVELOPMENT

Senator BURDICK. Thank you very much.

In your statement you said the sum you are asking for would enable you to start construction of the Lonetree Reservoir and the Rockford Canal in fiscal year 1982. These are the key features of the first stage development of some 80,000 acres that can be served without impacting on Canadian streams in any way whatsoever.

In other words, when you ask for first stage development, that doesn't mean that is the only stage.

Mr. RICHTER. No, sir.

Senator BURDICK. Other stages will follow?

Mr. RICHTER. Yes, sir.

LONETREE RESERVOIR AND NEW ROCKFORD CANAL

CANADIAN OBJECTIONS

Senator BURDICK. Either you or the Governor can answer this question. Have your studies shown that the construction of the Lonetree Reservoir and the New Rockford Canal would have any impact in Canada? And should Canada have any objection?

Governor OLSON. They should not. It is essential, in order to complete the first stage, that those two features be completed. There has been some discussions for the later phases of the project which could impact Canada.

The point is that phased development is offered and presented in order to monitor that kind of concern, and it should be acceptable as the legitimate, reasonable approach to the matter and should be acceptable.

Senator BURDICK. In other words, Lonetree Reservoir is an integral part of the original plan and an integral part of the first phase and could be built and used without any interference at all with Canada?

Governor OLSON. Yes, sir.

Senator BURDICK. And if the problems with Canada are resolved, it can be used for somewhat further purposes.

Governor OLSON. That is right.

Senator BURDICK. It seems to me that is a pretty good arrangement.

I have one more question. About a month ago, several of us had the opportunity to meet with Secretary of Interior Watt about the Garrison diversion project. You recall he is very familiar with our project and I felt he was very supportive.

We discussed several issues, including the Department's policy with regard to acquisition of mitigation land pending investigation and the future funding of the project. Are you aware of any followup with the Secretary that has taken place since that meeting?

Governor OLSON. I am not aware of any unless Mr. Richter has.

Mr. RICHTER. No, I am not aware of any followup. Our manager, Homer Englehorn, is present, if you have any technical questions you care to ask him.

Senator BURDICK. Gentlemen, this project has been in the works for more than 20 years. As you know, I have been in your corner for a long time. I hope this can proceed as you suggest.

Thank you for coming.

Governor OLSON. Thank you, Senator.

[The statements follow:]

STATEMENT OF ALLEN I. OLSON, GOVERNOR OF NORTH DAKOTA

Mr. Chairman, I am Allen I. Olson, Governor of the State of North Dakota, and appear before your Committee in support of the Garrison Diversion Unit and continuing appropriation for its construction.

North Dakota is one of many states which has more than one strong economic base. Agriculture has been, until recently, the primary mainstay, but now we are fast becoming one of the nation's leading oil and gas producers and have strippable coal earmarked for leasing in 1983. Even with our vast energy opportunities, we are an agricultural state that desires to retain its agrarian status; we wish to increase and ensure our capability to produce food and fiber in significantly higher quantities for both North Dakota and the nation's needs.

The acute 1930's drought brought into bold relief the benefits provided by Federal Reclamation. During these "dust bowl" years, thousands of farmers abandoned their homes. By 1940 irrigation and flood control were viewed as the most comprehensive approach to developing a water basin's natural resources. In our area the Pick-Sloan Plan was the mechanism for creating upstream reservoirs for irrigation and other consumptive uses and the marketing of electrical energy produced by the project's power plants.

The Missouri River Basin Project was the most comprehensive water resource program envisioned at that time. It included the entire spectrum of multiple-purpose benefits -- irrigation, hydroelectric power, flood control, navigation, pollution control, and municipal and industrial water. The project included irrigation of 4.3 million acres. Garrison Dam was one of five dams authorized and completed which formed the backbone of the flood control and navigation storage system and produced hydroelectric power.

To date North Dakota has been primarily a provider in the development of the Pick-Sloan Plan. The Garrison and Oahe Reservoirs inundated over one-half million acres of fertile land for water storage. Towns were relocated and a loss of annual income from the land is in excess of $100 million. North Dakota was proud to contribute to the stabilization of the Missouri River; however, we are still, after nearly forty years, awaiting the benefits we were promised through Congressional action.

The Garrison Diversion Project, as reauthorized by Congress in 1965, provides us the benefits promised and agreed to. We expect a stabilization of state and regional economy; we envision increased farm income, increased trade opportunities, new businesses, new fish, wildlife and recreation areas and a stable water supply for many of our cities.

With the diminishing land base constantly a threat, the irrigation of 250,000 acres, which we could count on during lush and lean years, would ensure a more stable and diversified agricultural economy. Many of our municipalities and rural and domestic users see the Garrison Diversion Project as the most dependable source of water which they desperately need to survive and prosper.

We in North Dakota are committed to providing our share of the food and fiber supply for this nation. However, because of our semi-arid climate with extreme temperature and precipication variations, a dependable and constant water distribution system is critical to our needs. We do not want to fall short of our goals or the nation's expectations.

North Dakotans have worked for decades to realize development of the Garrison Diversion Project which will provide irrigation so that we may increase food and fiber production; it will ensure more productive soils and also protect us against the ever present impact of droughts. We need Garrison Diversion and we are confident that it can be achieved in a responsible manner which is both environmentally and economically sound.

With respect to the planned consultations between Canada and the United States on the authorized features of the Garrison project, the state's position remains that Canadian concerns are to be considered and resolved in a manner that is reasonable and acceptable to the two nations.

Given March 23, 1981

STATEMENT OF CHARLES A. RICHTER, CHAIRMAN, BOARD OF DIRECTORS, GARRISON DIVERSION CONSERVANCY DISTRICT

Mr. Chairman, and Members of the Subcommittee, I am Charles A. Richter, of New Rockford, North Dakota. I am Chairman of the Board of Directors and the only person authorized by the governing body of the Garrison Diversion Conservancy District to present the views of the District to this Subcommittee. I appear here today in support of an appropriation of $11,000,000 for the Garrison Diversion Unit for fiscal year 1982. This sum represents an increase of $7 million above the amount contained in the Administration's budget request for this activity.

My Board of Directors, and indeed the vast majority of the citizens of the District and the State, support President Reagan's ideas with respect to federal spending, particularly his plans for reducing outlays on programs that make no contribution to our economic strength. However, we do not feel that cutting back on resource development programs to inefficient levels of operation are helpful to the Nation's overall economy. Programs such as the Garrison Diversion Unit increase the tax base, strengthen local government's ability to function without federal assistance and ultimately return their cost to the Treasury many times over. So, Mr. Chairman, we see no paradox in our position of supporting overall reduction of the budget while supporting very modest increases in our own line item.

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In similar vein there are encouraging signs that we can reach an understanding with federal fish and wildlife officials on the troublesome issue of mitigation lands. We are also hopeful that this Administration will work more closely with us in settling some of the harassing litigation that has been filed against the project. In short, Mr. Chairman, there is an air of reawakening in Garrison, and people are beginning to have their dwindling hopes renewed. An additional $7 million would enable us to take advantage of this new spirit and to move forward. Realistically, we cannot expect to make up for the time we have lost in the last four or five years, but we can, hopefully, not lose any more.

Just one final word about local support. As you know, the Garrison Diversion Unit has always enjoyed strong bipartisan support from all of the important state-wide elected officials. You will be interested to know that the same degree of support is forthcoming from the team elected last fall. If this is unique, Mr. Chairman, I suggest that there is a reason for it. That is, simply stated, the people support it and behooves the elected officials to do likewise.

ADDITIONAL PREPARED STATEMENTS

Senator BURDICK. I want to take this opportunity to submit testimony in support of the Garrison diversion project from Lawrence D. McMerty, executive director of the North Dakota Water Users Association.

I also have two statements in support of the Souris Valley flood control project—Burlington Dam—to submit. The statements are from Mr. McMerty and Mr. Chester Reiten, mayor of the city of Minot.

[The statements follow:]

STATEMENT OF LAURENCE D. MCMERTY, EXECUTIVE VICE PRESIDENT, NORTH DAKOTA WATER USERS ASSOCIATION

GARRISON DIVERSION UNIT

Mr. Chairman and Members of the Committee:

My name is Laurence McMerty and I am the Executive Vice President of the North Dakota Water Users Association. Our organization is comprised of more than 2,400 farmers, businessmen and professionals across the State of North Dakota who have an active interest in the conservation and development of our state's water resources. At the very top of our list of priorities is the development of the Garrison Diversion Unit.

The Garrison Diversion Unit has been studied and restudied for the past several years. Any number of objections have been raised against the project on several fronts. We believe that those objections which have been proved to be valid have resulted in the necessary alterations being incorporated into the Project. Those objections which have proved to be groundless have been considered and answered. Yet the delays continue and this worthwhile Project is still far from becoming a reality for North Dakota. We appeal to you for your help in bringing this long-sought and much too frequently delayed Project into existence.

No one who has objectively studied the Garrison Diversion Unit can deny the tremendous economic, environmental and social benefits which this development will bring to North Dakota and the Nation. No one can deny, either, the great sacrifices North Dakota has already made in the loss of land and the investment of millions of dollars to further the development of Garrison Diversion. And no one can deny that the Garrison Diversion Unit continues to enjoy the overwhelming support of North Dakota's citizenry and political leaders. Yet the initial stage of this Project, which should have been completed four years ago, is in fact less than twenty per cent completed with the prospect of further delays looming in the future.

The North Dakota Water Users Association believes that all of the Presidents of the United States since Franklin D. Roosevelt of both political parties, with the exception of one, have not been wrong in their unanimous support for the Garrison Diversion Unit. Nor do we believe that all of the Congresses have been wrong as they have approved the necessary appropriations for the development of the Project each time an appropriation has been requested. Nor do we believe that all of North Dakota's Governors, political leaders and the vast majority of its citizenry have been wrong in supporting the development of Garrison Diversion. And yet the Project today is at a virtual standstill. It is a tragic and totally unacceptable situation.

Gentlemen, our water supply problems in North Dakota grow more desperately acute each year and, without Garrison Diversion, the problems will continue to degrade, not improve. Our agriculatural economic base, which Garrison Diversion will stabilize, continues to be without a solid base. We have already made the sacrifices; justice demands that we begin to reap the benefits.

For these and other reasons, the membership of the North Dakota Water Users Association unanimously adopted the following resolution at its annual membership meeting on December 3, 1980:

GARRISON DIVERSION UNIT

> We respectfully request that the Water and Power Resources Service issue contracts and begin work on major facilities of the project as listed in the Public Works Bill of 1980. We urge them to proceed as expeditiously as possible with the development of the LaMoure Unit of the James River Irrigation District and the 5,000-acre research facility in the West Oakes Unit to allow field testing and research as recommended by the International Joint Commission. We urge the United States Government immediately begin consultations on the transboundary impacts of the project with Canada and that priority be given to allow construction of Lonetree Dam and related facilities since the IJC concluded that this could be constructed without unacceptable risk to Canada, thereby preventing further costly delays. We urge Congress to appropriate at least $35 million for FY82 construction works for the project. We deplore the actions of the Audubon Society and the Committee to Save North Dakota to delay and stop the construction of the project. We support the legal action taken by the Conservancy District to determine the authorized mitigation plan and settle the acceptance of West Bay lands of Devils Lake for mitigation purposes. We request that the Water and Power Resources Service, Fish and Wildlife Service, Conservancy District and the State of North Dakota, through the Garrison Diversion Mitigation and Enhance-

ment Lands Commission, cooperate toward a plan of mitigation and enhancement, using the various approaches developed by the special mitigation study group, which will be acceptable to the people of North Dakota. We oppose the taking of prime agricultural land for mitigation purposes and emphasize the willing-seller concept for acquisition of mitigation and enhancement lands. We realize it is impossible to identify every parcel of land which may be needed for project purposes since the construction of the project will be over a period of 15-20 years. We urge the Department of Interior to accept the staged development program as proposed by the Conservancy District and the State of North Dakota.

Gentlemen, we urge your continued support for the Garrison Diversion Unit and pray that you will continue to approve the necessary appropriations to bring this much-needed Project into being.

Thank you.

SOURIS RIVER VALLEY FLOOD CONTROL PROJECT

My name is Laurence McMerty; I am the Executive Vice President of the North Dakota Water Users Association. I am pleased to present this statement of our unified support for the Souris Valley Flood Control Project, also known as the Burlington Dam, on behalf of the more than 2,400 citizen members of our organization across the State of North Dakota. This statement is also presented on behalf of the North Dakota Water Management Districts Association whose members are responsible for the management and control of the water resources in each of the counties of our state.

We believe the position of our organizations in testifying on this subject is unique as our associations have many members throughout the Souris Valley, both in the areas that would be adversely affected and in the areas that would be benefitted by the construction of the Burlington Dam. We are also unique in that the membership of our organizations is largely composed of individuals with many years of experience in analyzing the problems of water management and finding reasonable solutions to those problems. Much study and consideration have been given by our membership to all of the proposals for flood control in the Souris Valley and we have determined that the only viable solution to the recurring floods in the Souris Valley is the construction of the Burlington Dam with its related flood control features. No other alternative which has been proposed at any time offers the protection needed by all of the residents of the valley.

During the past two or more years there has been interest expressed in the Province of Saskatchewan in the possible construction of Rafferty Dam, which would be a water supply dam near the community of Estevan. Opponents of the Burlington Dam Project have seized upon that interest as a possible alternative to a flood control project in North Dakota. While having strong emotional appeal, incorporating flood control features for North Dakota into the Rafferty Dam proposal has no practical merit.

First, there is a primary difference between a flood-control dam and a water supply dam. A water supply dam must maintain a certain level of storage to provide for the needs for which it was constructed. A flood control dam, on the other hand, must be emptied each year to provide for the next spring's flood. While Rafferty Dam could be operated to provide limited flood protection for the Souris Valley, one hundred thousand acre-feet of flood storage, even under optimum conditions such limited storage would provide, at best, only a fourteen percent reduction of the peak flows of floods in North Dakota during the 100-year flood. In fact, such limited storage capacity would probably result in no discernible reduction in the peak flow in North Dakota at all.

Second, the flood waters in the Souris Valley in North Dakota come from several sources. While Rafferty Dam may provide some limited protection from flood waters originating in the Upper Souris River, it would provide no protection from the Moose Mountain drainage, the principal source of the major floods on the Souris River in North Dakota, the Dec Lacs River, several smaller tributaries to the Souris River, or a storm centered over the Souris Valley in North Dakota.

Third, construction of Rafferty Dam, which may be necessary for future water supply needs in that region, will cause several severe adverse impacts upon the residents and landowners in that area. To compound those problems by adding additional flood control storage to provide limited protection for North Dakota and no flood control benefits for Canadians themselves will only serve to expand the impacts upon Canadians and increase the local opposition to that project.

That is one of the reasons that the Souris River Study Board, composed by technical water management experts from the Canadian federal and provincial level, recommended that any future action on Rafferty Dam be postponed indefinitely.

For these and other reasons it has become perfectly clear to the water management and control interests in North Dakota that the Rafferty Dam offers no final solution to the flooding problems in the Souris River Valley in North Dakota.

There is another point which we feel it is incumbant upon us to draw to your attention at this time. There are some who have suggested that somehow or other the people of the City of Minot and the downstream landowners and communities are to blame for the flooding problems in the Souris Valley. Nothing could be farther from the truth.

From 1904 to 1969, there were no floods of major proportion in the Souris Valley in North Dakota. From 1969 to 1980, there have been seven major floods in the valley. One of the major differences during this period has been the great amount of drainage in the region, particularly in Canada where drainage practices are largely unregulated, that has chiefly contributed to the volume and the peak flows of the floods which are becoming an almost annual event. The people of Minot and the downstream communities and farms are not the cause of this problem; they are victims of it. And as these practices continue and as the flood flows increase, the citizens of this area can only look forward to substantially greater suffering and hardship.

We recognize that providing adequate flood control for downstream residents is often accomplished at the expense of upstream residents who are not the victim of the flood problems, but we also recognize that these "trade-offs" must be made if we are to fulfill our obligations to promote the public welfare of the vast majority of our citizens. The Burlington Dam proposal maximizes the benefits of flood control and, since it is to be a "dry" dam utilized only once in every fifty years, it minimizes the adverse impacts on the upstream residents.

For these and other reasons, the membership of the North Dakota Water Users Association and the North Dakota Water Management Districts Association view the Burlington Dam with its related flood control features as the only acceptable solution to the flood problem of the Souris Valley and unanimously adopted the following resolution at our annual joint meeting on December 3, 1980:

MINOT FLOOD PROTECTIVE WORKS

> Congress is urged to continue funding the flood protective works on the Souris River and to complete the overall project as recommended by the Army Corps of Engineers.

Gentlemen, our organizations strongly urge your favorable consideration of the amendments to the authorization of the Burlington Dam Project. It is time we made this much-needed project a reality.

STATEMENT OF CHESTER REITEN, MAYOR, MINOT, N. DAK.

Mr. Chairman and Members of the Committee:

My name is Chester Reiten, Mayor of the City of Minot.

I have appeared in front of sub-committees of the Congress every year since 1970 to ask for funds for the U.S. Army Corps of Engineers to complete its studies which are aimed at providing flood control on the Souris River as it winds its way through North Dakota. You have not only responded by appropriating these funds, but you have also provided the federal share of the river channel work through Minot. This channel work protects our city from smaller floods of up to 20 to 25 year frequency. I can assure you that the people of the City of Minot are extremely grateful and appreciative and I would like to thank you personnally in their behalf.

You have also been generous in providing emergency funds in seven of the last 12 years in an effort to partially contain floods and minimize damages. We sincerely hope that this drain of federal moneys will cease, in the near future, when you provide a permanent solution to the flooding problem on the Souris River. We are here to support the selected U. S. Army Corps of Engineers Plan and urge that continued funding of that plan be appropriated by Congress.

I should point out that some have suggested that somehow or other the people of the City of Minot and downstream are to blame for the flooding problems that we have in the Souris Valley. I don't believe that anything could be further from the truth. History will prove that from 1904 to 1969, there were no floods of major magnitude in the Souris Valley in

North Dakota. However, from 1969 to 1979, there have been seven major floods in the Souris River Valley.

One of the major differences during the past 10 years over the previous 65 years has been the great amount of drainage in the region. This is particularly true in Canada where drainage practices are largely unregulated. We believe that this increased drainage is the chief contributor to the increased volumes and peak flows of Souris River floods which are almost an annual event in Minot.

The people of Minot and the downstream communities and farms are not the cause of this problem; they are the victims. As these practices continue and as the flood flows increase, the citizens of Minot can only look forward to more suffering and greater hardship.

I should also point out that the area most affected by these floods is populated very heavily by 12,000 persons, a large number of which are low income and elderly people. With the present extreme high interest rates and high cost of housing, these people can in no way afford to purchase other housing. These people, in their older homes, are innocent victims of our frequent floods. The flood prone area of Minot also contains many of our schools and churches. There are few commercial business firms in the floodplain, leaving the majority of the flood victims the elderly and the low income. These are the innocent people we must protect.

A couple of years ago a local study combined the flood damages since 1969 with federal and local emergency flood expenditures. That estimate of total cost came to $70 million. That's close to the estimated cost of permanent flood protection with the construction of the Burlington Dam, enlargement of the Lake Darling Dam, as well as other aspects of the project aimed at maximum protection for those who live along the river.

The U. S. Army Corps of Engineers first began to study the unusual flood problems on the Souris River in 1957. Now, some 100 plans later, the Corps has made its recommendations. As you would expect, many dire predictions begin to emerge when a project is about to take shape. You have been deluged with other plans and protests, continually. Most of these protests come from people taking their first look at the project, overlooking the fact that there has been 20 years of study by experts in the flood control field.

As can be expected and understood, the majority of the opposition is among the residents upstream from the proposed Burlington Dam.

On the other hand, the staunchest support for the U.S . Army Corps of Engineers plan, embracing the raising of Lake Darling and the construction of Burlington Dam, comes from the vast majority of people residing in the Basin who have suffered flood damages and are hopeful that a solution will be found where both rural and urban families downstream from the proposed site will have security from future flood threats. The North Dakota congressional delegation is solidly in favor of the plan proposed by the U.S. Army Corps of Engineers.

About 3½ years ago, Brigadier General Robert L. Moore, the former chief of the Chicago division of the Army Corps of Engineers, called the selected plan the most "people orientated" flood control project ever to emerge from his division.

The City that I represent has a population of 33,000, with 1/3 of that population affected almost annually by floods or the threat of floods. The Souris River winds its way through the center of our town and therefore, the floodplain bisects the City.

Approximately 4,000 homes, churches, schools, businesses and public facilities were affected by flooding of the Souris River in 1969. Since that time there have been constant flood threats and flood fights. The people of my town are at the end of their rope and look to you for the solution of this continual nightmare.

May I close with the thought that in your decision making, you have always had a notable record of following a course of reason and good judgement. You have continually supported the agencies of government which have demonstrated expertise in their fields. We are confident and appreciative in asking again that you shun the contrived hysteria and unsubstantiated propaganda on this project so vital to the future of the people living in the Souris Valley.

We hope that you will give favorable consideration to the amendments to the authorization of the Burlington Dam project, so that construction can begin as soon as possible.

Thank you for the opportunity to file this statement with the committee.

OHIO RIVER BASIN PROJECTS

STATEMENT OF WILLIAM HULL, CHAIRMAN, LEGISLATIVE COMMITTEE, OHIO VALLEY IMPROVEMENT ASSOCIATION

ACCOMPANIED BY:

C. WILLIAM KINZELER, PRESIDENT, OHIO VALLEY IMPROVEMENT ASSOCIATION

ROBERT GRAY, MANAGER, RIVER OPERATIONS, ASHLAND OIL, INC.

EDWARD DIETZ, MANAGER, BARGE TRANSPORTATION, UNION CARBIDE CORP.

INTRODUCTION OF ASSOCIATES

Senator BURDICK. Our next witness is William Hull, chairman, legislative committee, Ohio Valley Improvement Association.

Mr. HULL. Mr. Chairman, I am accompanied by the gentlemen you see here. I would like to introduce them to the committee.

First, I have the privilege of introducing the new president of the Ohio Valley Improvement Association, C. William Kinzeler of Cincinnati on my left, Mr. Ed Dietz, who is manager of barge transportation for the Union Carbide Corp.; and Mr. Robert Gray, who is manager of the river operations for Ashland Oil Co. They are here to show their interest and also because if you have questions, I think any one of them would probably be in a better position to answer than I will.

We are very grateful, Mr. Chairman, for this opportunity to present our recommendations for fiscal 1982 appropriations for various Ohio Valley water resources projects.

FUNDING REQUEST

We recommend fiscal 1982 funding for economically feasible projects throughout the Ohio basin, not to exceed the capability of the Corps of Engineers for efficient use of funds, except in the case of the Gallipolis Locks and Dam replacement, we have recommended $2 million for advanced engineering design based upon our estimate in light of the magnitude and complexity of the project and our experience with similar projects on the Ohio subject to adjustment, the amount to be reported to the Corps of Engineers as to its capability, this being subject to the condition the project be authorized in one way or another, a matter which I would like to discuss briefly with the committee in a moment.

A list of the projects for which we are recommending funding appears in our prepared statement. I want to call the attention of the committee to the fact that we have shown the budgeted amounts for each of these projects which had been included in the Carter budget.

The information as to the changes made in the Reagan budget did not reach us in time for us to include those numbers. One project that I recall, the Hannibal project, was given zero budget item in the Reagan budget and there were some reductions in some others, I believe. But those are matters the committee will have full knowledge of when it considers our recommendations.

GALLIPOLIS LOCK AND DAM

We emphasize again this year, Mr. Chairman, the increasing urgency of the Gallipolis Locks and Dam replacement as recommended by the West Virginia district engineer in his draft report of last November. The House water resources legislation did include provision for authorization of construction of the project, but unfortunately the Senate did not pass a water resources bill, so the project remains in its previous status, which was simply authorization of the initial stage, phase I through the design memorandum.

The Corps has recommended, proposed, rather, a change in the law, a statutory change which would make it possible for advanced engineering design to be continued in cases where, otherwise, following the completion of phase I—remember, the project work would have terminated. This was as General Heilberg, I think, informed this committee to eliminate that gap which results in the reassignment of personnel and considerable loss of time.

With this project, in particular, it is especially essential that such legislation pass and we will do our best to encourage its passage.

In the meantime, it is our hope that in view of the urgency of this project, the committee will be sympathetic with our view that it should receive the appropriation subject, of course, to the passage of the appropriate legislation. That legislation, as I understand it, Mr. Chairman, would permit appropriation of funds for advanced engineering and design for projects, the report of which has been sent by the Division Engineer to the Board of Engineers of Rivers and Harbors, that authority to remain in effect until the final report of the Chief of Engineers is sent to Congress, at which time the whole study phase, theoretically, is ended.

There may be some additional provisions, Mr. Chairman, of which I am not familiar. The point is, should that legislation pass, as the Corps has recommended, it would remit this kind of an appropriation and save a great deal of time.

In fact, our estimates are that according to the schedules of construction for the project, which is a 7-year schedule, and according to the estimate as to when the Chief's final report will be available for Congress, having notified the States involved and the affected Federal agencies and going through all the procedures that are required—review by the Secretary of the Army, and so on—that would mean a saving, to appropriate advanced engineering design for fiscal 1982 would mean a saving in the final operational status of the project of about 2 years. In other words, what it would mean, what it could mean is the project could be finished in 1988 or 1989 instead of 1990 or 1991. And that the rate at which congestion is increasing, as shown by the District Engineer's report, the amount of time lost in waiting access by 1990 will average 33 hours.

IMPACT ON NAVIGATION DELAYS

In 1979, it was 8 hours. It steadily increases exponentially with the volume of traffic seeking access. And at that time, based upon our information as to the costs to carrier shippers and receivers of freight via that project of $350 an hour, the total lost time, the economic waste involved by 1990 will have reached inflation factor of 6 percent, about $250 million, which is very near the estimated cost of the project, in a single year.

It is our deep hope that this project be placed in position to be eligible for a receipt of advanced engineering design in fiscal 1982. As I said, we will do all we can to encourage the passage of that legislation in the hopes that it will be done in time for it to be eligible for that purpose. We did want to call to the attention of the committee the extreme urgency of the matter.

One further note. The project is on the bend of the Ohio and under high or medium-high water conditions, the tows tend to be diverted by the current. The accident rate is higher on the Gallipolis than it is on any of the modernized projects on the Ohio, according to a study recently made by the Coast Guard. It becomes a matter of not only saving economic waste, which is a heavy burden on the enormous volume of coal, steel volumes moving downriver, petroleum products moving upriver, and chemicals moving up and down.

Last year, traffic through that lock was 40 million tons, and by 1990 it is expected, very conservatively, it will reach 64 million tons and probably higher. So you can see this is a vital instrument of commerce for the entire Ohio Valley and, indeed, as far away as the gulf coast.

Petroleum products go up to Pittsburgh through that project. Many chemicals come up to Kanawha Valley, which is above the dam, in large volumes. The coal traffic potentially will be available for movement of coal for export.

For all those reasons, it has been designated by the Ohio River Basin Commission as the most critical project on the Ohio, subject only to locks and dam 26.

If you have any questions, Mr. Chairman, we will be glad among us to try to answer them.

Senator BURDICK. You gave some very pertinent testimony, Mr. Hull. By stepping up the construction period, you not only save construction costs and interest, but you also save revenue.

BENEFIT-COST RATIO

What is the cost-benefit ratio for the Gallipolis?

Mr. HULL. I am sorry, Mr. Chairman.

Senator BURDICK. On the Gallipolis Locks and Dam, what is the cost-benefit ratio?

Mr. HULL. According to the District Engineer, it is 9.41 to 1.

There was an addendum, which corrected and will reflect a higher cost-benefit ratio higher than that.

Senator BURDICK. Right now?

Mr. HULL. At present, 9.41 to 1.

Senator BURDICK. And what would it be, including additional future traffic?

Mr. HULL. That, of course, benefit-cost ratio, as I understand it, Mr. Chairman, reflects the expected benefits over the 50-year life of the project, so that does include the estimated future traffic, and I think the figure that the District Engineer used for estimating traffic increases, it was that the demand would reach something over 64 million tons by 1990. It is to go on increasing, according to his estimates, until about the year 2000. Then it levels off according to those estimates. That is what those numbers are based on, as I understand it.

PREPARED STATEMENTS

Senator BURDICK. Thank you very much, Mr. Hull. Your full prepared statement and the several supporting statements, which you have submitted, will be made part of the record.

[The statements follow:]

STATEMENT OF WILLIAM J. HULL, OHIO VALLEY IMPROVEMENT ASSOCIATION, INC.

The Ohio Valley Improvement Association, a broadly-based civic organization headquartered in Cincinnati, Ohio, and dedicated to the more effective use and development of the water resources of the Ohio River Basin, presents herewith its recommendations to the Office of Management and Budget for the fiscal year 1982.[1] Pursuant to the policy which this Association has maintained since its founding in 1895, these recommendations are confined to projects of proven engineering, economic, and environmental feasibility.

I. IMPORTANCE OF THE WATER RESOURCES PROGRAM OF THE OHIO BASIN

The Ohio Basin extends from the vicinity of Johnstown, Pennsylvania, on the east, westward to the Mississippi River, and from northern Ohio and Indiana southerly into the State of Alabama. The Basin includes portions of 14 states and has a population of about 24,000,000 persons. The importance of the Basin's water resources is signified by the fact that the annual runoff per square mile is close to twice the national average.

The Basin encompasses a mature and diversified industrial and farm economy, including the steel industry of the Pittsburgh, Youngstown, Wheeling, and Cincinnati districts, the large chemical complex of the Kanawha and Upper Ohio Valleys, substantial petroleum refining and distribution facilities, most of the nation's production of bituminous coal, a major portion of the country's electric utility system, principally investor-owned, and extensive and highly productive farming areas. All of the eastern basin lies in the Appalachian area.

Flood control, water supply, and navigation are continuing and vital factors in the economic life of this region. The biennial investment survey which our Association conducts has determined that since 1950, over $63.6 billion has been invested in major plant projects in counties bordering the Ohio River and its navigable tributaries.[1] Abundant supplies of process water, flood control of sites suitable for plant construction in otherwise mountainous territory, and low-cost water transportation are the reasons most commonly advanced by industrial executives for the Ohio Valley site selections. The critical importance of water transportation in this development is demonstrated by the fact that traffic volume on the main stem of the Ohio has risen from about 45 million tons and 9.8 billion ton miles to more than 152 million tons and just under 39 billion ton miles in 1978. In combination with the rich natural resources and high quality of the labor force, comprehensive water resource development and wise use are thus crucial to the major role of this extensive region in sustained high employment, containment of inflation, secure energy supply, and growth of the national economy.

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[1] Except as otherwise noted.

The projects we recommend for Fiscal 1982[2] are listed in detail on pages 45 to 48 of this message, falling into the categories of navigation, flood control, local protection projects, and water resource surveys. It must be emphasized, however, that these are convenience classifications only. The recommended projects are largely multiple purpose, each typically performing more than one of the functions named and, in addition, contributing to others, including water supply and water-based recreation.

II. NAVIGATION

The Gallipolis, Ohio, Locks-and-Dam Modification Project

The most immediately and seriously critical navigation project on the main stream of the Ohio River is that at Gallipolis, Ohio. The present lock-and-dam structure at this site, completed in 1937, is deteriorated, dangerous operationally, and seriously inadequate for modern navigation technology and traffic demand. Congestion at Gallipolis is already serious and steadily getting worse. With the attainment of operational status of the Smithland project on the lower Ohio River in 1981, the existing main lock at Gallipolis will remain the only main lock chamber with a 600-foot limitation between the Pennsylvania border and the Gulf of Mexico, a river distance exceeding 2,000 miles.

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[1] For the details of this survey, please see pages 44 and 44a.

[2] Supplemental funding for FY 1981 is also recommended for the Gallipolis, Point Marion and Grays Landing projects subject to authorization of construction.

The Upper Ohio Basin. The antiquated Gallipolis installation will thus stand as the sole bottleneck to carriage of essential fuels and commodities between the Upper Ohio Basin and the entire continental interior and the Gulf Coast. The Upper Ohio Basin encompasses eastern Ohio, western Pennsylvania, and most of the State of West Virginia. It includes not only the Pittsburgh area but, in addition, the entire valley of the Kanawha River, plus the Youngstown, Parkersburg, and Wheeling areas. Major industries throughout this region are critically dependent on expeditious transits via Gallipolis.

Fuels and Commodities Affected. The Gallipolis site is particularly critical as a gateway of energy supply into the Upper Ohio Basin and has an important bearing on the reliability of electric power throughout a wide area. Over 55 percent of all the tonnage moved through the Gallipolis locks in 1977 consisted of bituminous coal, and an additional 16.5 percent of petroleum fuels, principally gasoline and fuel oil. Gallipolis is also vital to the chemical industry of the Upper Ohio and Kanawha River Valleys and constitutes, as well, an important outlet to distant markets for high-valued steel products from the Pittsburgh and Upper Ohio Basin districts. In addition, the facility transits very large tonnages of ores, aggregates, and other minerals.

The following table sets forth the tonnages of major commodity movements through the Gallipolis locks in 1977:

TABLE I.

MAJOR COMMODITY MOVEMENTS TRANSITING THE GALLIPOLIS LOCKS -- 1977

	Thousands of Tons		
	Upbound	Downbound	Totals
Grains- - - - - - - - - - - - -	---	2.5	2.5
Coal and Coke - - - - - - - - -	14,826.6	5,621.1	20,447.8
Petroleum Fuels - - - - - - - -	5,893.1	126.7	6,019.8
Crude Oil - - - - - - - - - - -	117.7	---	117.7
Aggregates - - - - - - - - - -	1,479.0	349.2	1,828.2
Chemicals - - - - - - - - - - -	2,535.5	528.7	3,064.2
Ores and Minerals - - - - - - -	1,012.4	207.1	1,219.5
Iron, Steel, Scrap & Iron Ore	1,207.0	1,544.8	2,751.9
All Other Commodities - - - -	1,496.0	215.3	1,711.3
Totals - - - - - - - - - - -	28,567.3	8,595.5	37,162.9

Source: U.S. Dept. of the Army, Corps of Engineers, Ohio River Division (Totals may not add precisely because of rounding.)

Bituminous Coal. The role of the Gallipolis Locks in the transit of bituminous coal deserves special emphasis in view of the program for greatly expanded utilization of this fuel in the

Nation's energy supply. Coal transits at Gallipolis have risen from 12.5 million tons in 1972 to 20.4 million in 1977. An even more rapid growth is now projected for the 1980's. The Consad Research Corporation of Pittsburgh, under contract with the Army Corps of Engineers, projects coal transits of 37.7 million tons at Gallipolis in 1990.

The unobstructed upbound movement of metallurgical coal is essential to the extensive steel industry of the Pittsburgh, Wheeling, and Steubenville districts. No adequate alternative sources of the required grades are economically available. Much the greater portion of the coal transits, however, consists of steam coal, some for the steel and chemicals industries, but most of it, both upbound and downbound, for riverbank electric generating stations. Any avoidable delay in completion of the projected modification would very probably cause a corresponding delay in the programmed expansion of coal-fired generating capacity in the Upper and Central Ohio Valley during the remainder of the century.

Petroleum Products. The upbound movement of petroleum products is of strategic importance to the U.S. balance of payments and to the long-established distribution system of the interior refining industry. In the Upper Ohio Basin, the waterborne products from Gulf Coast and interior refineries are in direct competition with products available from Atlantic Coast origins by other modes, a source in which imports of crude oil and petroleum products play a substantially larger role.

Gasoline and fuel oil comprise the largest volumes. In 1977, the gasoline movement through Gallipolis amounted to 552 million gallons, an amount equivalent to over 60 percent of all the gasoline received by all modes of transportation in the entire State of West Virginia. These receipts, however, were not confined to West Virginia, a large portion having been delivered into Eastern Ohio and Western Pennsylvania. Additional petroleum products moved upbound via Gallipolis include fuel oils, naphtha, jet fuel, and lubricants--all of importance in this highly industrialized part of the country.

Chemicals. The chemicals movement likewise represents a long-established logistical system. Crude chemicals and intermediates originating on the Gulf Coast and the continental interior are carried to the processing plants of the Kanawha and Upper Ohio Valleys for the production of an immense variety of finished products for subsequent distribution by rail and truck to industries and consuming markets throughout the Northeast Quadrant of the United States. The industry also ships a substantial volume of these products by water downstream via the Gallipolis locks.

Iron and Steel. The downbound steel movement in 1977 represented an f.o.b. revenue to the Upper Ohio Valley industry of about $472 million, a large portion consisting of deliveries to the Lower Mississippi Valley and the Gulf Coast in competition with steel imports. Congestion at Gallipolis impairs economical access to these markets, contributing to a regional surplus with a depressive impact on all the mills of the area, including those of the troubled Youngstown district.

Economic Impact of Deferral of Recommended FY 1981 and 1982 Funding. In view of the involvement of these vital regional and national interests, it is most important that there be no avoidable delay in advancing the necessary engineering and design work and initiating construction of the Gallipolis modification project. With the most expeditious progress, completion cannot be expected before the end of 1987. Based upon past experience, however, completion in 1990 appears to be a much more realistic prospect.

Therefore, a decision at this time on the funding of AE&D for fiscal 1981 and 1982 will determine whether the project is to be completed as soon as possible, under orderly and expeditious procedures, or one year or more years later than possible. Therefore, this analysis relates to the costs of congestion at Gallipolis during that one year of possible initial service of the projected new lock, using the year 1990 as a benchmark.

During the year 1990, the non-availability of the projected new lock could be immensely costly to the shipping and receiving industries. Of course, no precise forecast of this cost can be made. Our Economic Consultant, Marvin J. Barloon, Professor of Economics (Emeritus), Case Western Reserve University, estimates the cost to the economy of congestion at the present Gallipolis locks during the single year 1990 to fall in the broad range of $238 million to $315 million. The difference between these figures represents alternative assumptions as to the rate of inflation.

Assumption as to Inflation. The smaller figure ($238 million) assumes an inflation rate during the 1980's of only 6 percent per year; the larger ($315 million) a rate of 9 percent per year. Both estimates are derived from Professor Barloon's calculation of the cost of congestion at Gallipolis in 1990, when stated in dollars of 1979 purchasing power, of $133 million.

On this basis, a deferral of only one year in the Gallipolis AE&D work contemplated for fiscal 1981 would cost the American economy in 1990 probably in the range of $238 to $315 million, stated in 1990 dollars.

This estimate in turn was derived from studies of traffic trends and severity of congestion prepared under the auspices of the Huntington, West Virginia, District of the Army Corps of Engineers. Traffic has been expanding at Gallipolis for many years. In 1955, the Gallipolis locks transited 14.6 million tons of freight; in 1965, 23.1 million; and in 1977, 37.2 million. This long-term growth is now accelerating. In January, 1979, the CONSAD Research Corporation of Pittsburgh, under contract with the Department of the Army, as above mentioned, submitted a report to the Huntington District projecting the 1990 traffic demand at 70.9 million tons.

The CONSAD projection has been confirmed very convincingly. In September, 1979, the Battelle Columbus Laboratories, likewise under contract with the Department of the Army, submitted a report projecting a 1990 traffic demand at Gallipolis of 70.2 million tons, virtually the same as the CONSAD projection. These were both very thorough, in-depth studies. Each projection was developed independently of the other and from an entirely different analytical data base. Their close correspondence, therefore, communicates a high degree of reliability.

Under the pressures of a 1990 traffic demand at Gallipolis of 70.9 million tons seeking transit (as estimated by Consad Corporation), it may be estimated that the average delay per tow of barges will approximate 30.4 hours. This estimate is derived from experience at Locks No. 26 on the Mississippi River. Both Locks No. 26 and the Gallipolis locks are dual locks, and lock dimensions are the same as between the two sites. In 1977, the tonnage transited at Locks No. 26 was 58.4 million, approximating that projected for Gallipolis in 1985 (56.3 million). Average delay time at the main lock No. 26 in 1977 was 10.2 hours. Professor Barloon, therefore, assumed the same average delay time at Gallipolis in 1985 when the projected tonnage would approximate that at Locks No. 26 in 1977. The conservatism of this estimate is evidenced by the fact that average delay time at Gallipolis had already reached over 8 hours per tow transit in 1979.

In spite of the approximate equivalence in tonnage, congestion at Gallipolis in 1985 will probably be substantially worse than that at Locks No. 26 in 1977. Much of the traffic at Gallipolis is one-way movement, requiring the lockage of large numbers of empty barges returning to shipping origins. In 1977, 76.9 percent of all the tonnage which transited the Gallipolis locks was upbound. The upbound and downbound loaded transits at Locks No. 26 are much more evenly balanced. Furthermore, the hazardous approach conditions at Gallipolis block access to either of the locks while vessels are entering or leaving the other, retarding movement and adding to delays.

Records maintained by the Army Corps of Engineers at congested locks have established the relationship between the rising tonnage of traffic demand and the increase in delay times. From 1985 to 1990, traffic demand at Gallipolis is projected to rise from 56.3 million to 70.9 million tons. In this interval of traffic expansion, delays increase about 7.65 percent for each one percent increase in tonnage. On the basis of this observed ratio, it is estimated that the average delay for access to the present Gallipolis locks in 1990 would amount to 30.4 hours per tow transit.

Apart from highly localized or specialized operations, costs of operating a tow of barges on the Ohio River are reported in the general range of $150 to $275 per hour, with $225 per hour as a general average. Costs of delays to shippers and receivers vary widely as between industries and as to duration and frequency of delays. One large industry, however, reports a cost, including both the barging operation and in-plant costs, of $350 per hour of tow delay.

While estimates of aggregate cost of congestion at Gallipolis derived from these figures are necessarily approximations, they communicate very forcibly the large magnitude of these costs to the American economy. At $350 per hour (in 1979 dollars), the 1990 delay of 30.4 hours would represent an economic waste of $10,640 for each transit. With 12,507 transits projected for 1990, the total cost would thus amount to $133 million, still in 1979 dollars, adjusted for inflation to the amounts above set forth.

Estimates of a 1990 congestion cost at Gallipolis in the range of $238 to $315 million, in 1990 dollars, may well understate the urgency of prompt action towards completion of the projected modification. There is a reasonable probability that traffic demand in 1990 will exceed the absolute physical capacity of the present locks. A two-week record kept by the Huntington District of the Corps in 1967 found that the average lockage time at the Gallipolis main lock was 74.6 minutes, a mix of shorter-time single lockages and longer-time doubles. With the increase in the size of tows the percentage of double to single lockages may be expected to rise by 1990. The 74.6 minutes is therefore conservative.

If, in 1990, the distribution of lockages as between the main lock and the auxiliary lock were to be the same as at the time of the Corps' study, and at an equivalent tonnage per tow, 9,943 tows of barges would have to be locked through the main lock. At 74.6 minutes per transit, this would require a total of 12,362 hours during the year. Inasmuch as there are only 8,760 actual clock hours within a 365-day year, this is an obvious impossibility. The traffic demand would exceed the physical capacity of the main lock by 41 percent.

The auxiliary lock could provide some relief. Its dimensions, however, are so limited that, for many tows, each tow would have to be broken into four or five lockage units, with the time for each transit of a complete tow extending up to some four hours or more. Any spare capacity in the auxiliary would thus be quickly exhausted. Much depends on the ratio of loaded to empty barges and on the number of double lockages in 1990. It will be a close call, at best, and not improbably a crisis.

When the traffic demand exceeds the absolute physical capacity of a lock, the period of waiting for lock access lengthens very rapidly so as to constitute in a short time a total barrier to incremental traffic. Experience in 1978 at Lock No. 50 on the Ohio River demonstrates this consequence. This lock, of the same dimensions as the main Gallipolis lock, will soon be replaced by a completed project. At the time in question, Dam No. 50 was a wicket dam and so was operational only at low-water stages. When low water required the raising of the dam on September 5, 1978, a queue of barge tows began to form immediately. After four days, the average waiting time per tow had grown to 10 hours. After ten days, it had grown to 40 hours. Only the return of high water ended the ever-lengthening queue.

The Gallipolis dam, however, is a fixed dam so that, should a corresponding situation develop in 1990, no such relief would be available. In effect, the critical element of low-cost water transportation would be removed from the economy of the upper Ohio River Basin. For most of the traffic no feasible alternative routings are available. Considering that most of the region's industry, notably iron and steel, chemicals, oil refining, coal mining, and electric energy, rests on a logistical base of water transportation, the adverse impact on production and employment would be of major magnitude.

Professor Barloon's estimates of 1990 congestion costs at Gallipolis in the range of $238 to $315 million and the associated potential for exhaustion of the capacity of the present locks indicate the seriousness of the impact of any unnecessary delay in authorization and funding of the Gallipolis project modification upon the vital economic interests outlined above.

Operational Hazards. In addition to the costs of congestion, relief is badly needed for the hazardous conditions of approach to the present locks. At medium-high and high water stages, when the current is swift, the risk of serious accident is unacceptably high, and rising traffic demand associated with congestion will substantially raise the exposure to this risk. In a recent year, the Huntington district of the Corps of Engineers found that the accident rate at Gallipolis was six times as high as that at any of the modernized facilities on the Ohio. The additional lock installation now proposed would substantially eliminate this hazardous condition.

Favorable Economic Evaluation. In spite of the clear need for action at Gallipolis, progress has been repeatedly deferred over a long period. Anticipating the problems of deterioration and congestion, studies were begun by the Huntington, West Virginia, District of the Army Corps of Engineers fifteen years ago. Favorable evaluations have been repeatedly reported, the latest in 1974 with a ratio of benefits to cost of 5.5 to 1.0. All indications at the present time point to the expectation that the studies now under way will serve principally to reinforce the previous findings as to economic feasibility.

Recommended Authorization and Funding. Authorization of additional work on the Gallipolis project which would permit funding at this time remains uncertain. The completion of work now authorized as Phase I, that is, of engineering and design through the design memorandum stage, is scheduled for late in calendar 1980 and will require no additional funding. Thereafter, the existing two phase procedure would involve prolonged delay, probably as long as two years, before work could be resumed. Therefore, this Association has earnestly recommended to the appropriate committees of Congress that uninterrupted progress at Gallipolis subsequent to the present Phase I be authorized at the present time. Such authorization is provided in HR 4788, passed by the House on February 7, 1980, and as of this writing is under consideration by the Senate Committee on Environment and Public Works. Should the Senate likewise act favorably, the succeeding work in Fiscal 1981 and 1982 would consist of advanced engineering and design studies, with initiation of construction contemplated for the year 1983.

Subject to authorization, therefore, this Association recommends that funds be budgeted in a supplemental budget for FY 1981 and in the regular FY 1982 budget for advanced engineering and design work, subsequent to the Design Memorandum, at the full capability of the Army Corps of Engineers. We cannot overemphasize the enormous regional values at stake in this project, with their implications as to national objectives and policy.

Systems Analysis. In association with the foregoing recommendation, the ongoing systems analysis and other studies leading towards authorization and construction of replacement works for the existing lock-and-dam installations of Dashields, Emsworth, and Montgomery Island near the source of the Ohio River at Pittsburgh, should move forward to completion at the earliest practicable date, together with the necessary rehabilitation work at Emsworth.

Other Ohio River Navigation Projects

We also recommend provision of funds in Fiscal 1982 for continued progress on the main stream navigation projects at Uniontown, Indiana; Cannelton, Indiana; Newburgh, Indiana; and Smithland, Kentucky. These projects are, or soon will be, operational but additional funding is required to develop their full recreational potential and, in the case of Smithland, also to complete dam construction.

In addition, the deteriorated 600-foot locks at Locks and Dams Nos. 52 and 53, in the busiest reach of the Ohio River, require prompt rehabilitation.

Ohio River Tributaries and Connecting Waters

Monongahela River. We urge most strongly that funds be budgeted, subject to authorization, in an FY 1981 supplemental budget and in the regular FY 1982 budget to initiate and continue advanced engineering and design on the Point Marion and Grays Landing projects. The facilities will replace existing Locks Nos. 7 and 8, which will have been in service well in excess of 50 years before new installations can be completed. In addition to the risk of failure, the antiquated design and dimensions of the old facilities constitute a serious bottleneck to coal and other traffic of great importance to the economy of West Virginia and the Pittsburgh industrial district. The plan and profile of the Monongahela River navigation system appears herewith as Chart 3.

The navigation structures in the Lower Monongahela River are also gravely inadequate and obsolete. Replacement projects should be authorized and funded by the Congress as soon as possible.

Kanawha River. Early completion of the ongoing survey is urgently required to develop an optimum plan for modernization of existing structures nearing the end of their useful life and rapidly approaching capacity limits.

Lower Cumberland River. A study is in progress to determine means for improving navigation conditions in the reach of the river below Barkley Dam. Existing conditions restrict utilization of the waterway and prevent realization of the full benefits of the Barkley Locks. It is essential that this study be completed as soon as possible in order that necessary improvements may be made. The plan and profile of the Cumberland River navigation system appears herewith as Chart 2.

Tennessee-Tombigbee Waterway. As an important linkage between the Ohio River waterway system and the eastern Gulf Coast, this Association endorses the provision of funds to continue construction of the Tennessee-Tombigbee Waterway. This project will close the gap between the Tennessee River, a major navigable tributary of the Ohio, and the Gulf of Mexico at Mobile, Alabama, thus greatly enhancing the usefulness of the inland waterway system with benefits to commerce and industry throughout the interior of the Nation.

The Tennessee-Tombigbee connection is of special importance because of the growing potential for the movement of Ohio Basin coal to eastern Gulf Coast electric utilities. Not only will this connection reduce costs by eliminating several hundred miles of distance; in addition, it will circumvent the present serious bottleneck between the Mississippi River and the eastern Gulf Intracoastal Waterway in the New Orleans area and enhance the national program for increased utilization of domestic coal.

III. FLOOD CONTROL AND MULTIPLE PURPOSE PROJECTS

Flood control has reduced the tragic consequences of flood disasters, while encouraging new plant construction and community development at sites previously exposed. Over the life of existing works, as of September 30, 1979, a total of $6.6 billion in property damages have been prevented by projects costing approximately $2.3 billion. Thus the total damages prevented by existing works amounted to more than double their original cost, an impressive return on public investments in projects whose life to date averages only 20 years, with many years of service life remaining. Table II, page 35, sets forth annual and cumulative damages averted in the Ohio River Basin by Corps of Engineers projects, 1969-1979.

The costs of flood disasters, over and above destruction of property, include prolonged interruption of production and employment, disruption of community life, impairment of public health, physical suffering, personal anguish and tragic loss of human life. The benefits of averting these consequences are of enormous magnitude, but are not included in the above statistics as to property damages averted.

There are now 74 operable flood control reservoirs in the Ohio River Basin, with 3 under construction. There are also 84 local protection projects with 9 under construction.

Recent floods, including the devastating flood of April 1977 in the Levisa Fork and Tug Fork of West Virginia and Kentucky and the more recent floods of 1978 and 1979 in Ohio and Kentucky, are grim reminders of the inadequacy of the Ohio River Basin's defenses against such ravages.

TABLE II

FLOOD DAMAGES PREVENTED BY CORPS OF ENGINEERS PROJECTS, OHIO RIVER DIVISION

FY	FY ONLY	CUMULATIVE
1970	$ 197,466,000	$1,762,027,000
1971	34,360,000	1,796,387,000
1972	1,137,789,000	2,934,176,000
1973	109,876,000	3,044,052,000
1974	160,268,000	3,204,320,000
1975	344,299,000	3,548,619,000
1976 & 1976 T Qtr.	148,732,000	3,697,351,000
1977	1,024,012,000	4,721,363,000
1978	489,243,000	5,210,606,000
1979	1,389,540,000	6,600,146,000

We therefore urge timely completion of active and authorized projects and prompt funding and implementation of such additional projects as Congress may authorize. We are particularly concerned that an adequate flood control program for the Big Sandy and Upper Cumberland Valleys be authorized this year and budgeted for FY 1981 (supplemental) to initiate advanced engineering and design, and for FY 1982 (regular) to continue such work.

We recognize the importance of considering non-structural alternatives to conventional flood control structures. We would emphasize, however, that because of the precipitous terrain through much of Appalachia and other sectors of the Ohio River Basin, communities and industries have little choice but flood plain location. Moreover, many industries require siting on the riverside both for water supply and for low-cost waterway access to materials, fuels and markets. The flood control program we recommend, therefore, in combination with any feasible non-structural alternatives, is essential to the social and economic well-being of the Ohio River Basin.

The flood control reservoirs now in operation in the Ohio River Basin contain a storage capacity of 26,215,000 acre-feet. Of this amount, 15,947,300 acre-feet are set aside for flood control, 509,200 acre-feet for water supply, 172,500 acre-feet for water quality, 8,375,000 acre-feet for recreation and conservation and 878,800 acre-feet for low-flow augmentation. In addition, 9 of the Ohio River Basin flood control reservoirs include hydro-electric power facilities with an installed capacity of 914 megawatts.

These features materially enhance the public values of water storage provided on the principle that sound conservation in an area of abundant but highly seasonal precipitation, such as the Ohio River Basin, requires storage of water where and when it falls for use when and where it is needed.

Encouragement of further development of multiple purpose water storage capacity by funding of authorized projects in accordance with the capabilities of the Corps of Engineers is clearly justified in the public interest. These features together with adequate flood control and navigation facilities are primary elements of the infrastructure upon which continued viability of the Ohio Valley economy deeply depends.

IV. STREAM BANK EROSION

Section 32 of the Water Resources Development Act of 1974 authorized a study of stream bank erosion on the Ohio and other rivers through use of demonstration projects to develop new techniques for bank stabilization. This Association regards this study as a matter of high priority. Damages to river bank property, in addition to pollution resulting from erosion, are matters of serious concern. Existing techniques of bank stabilization involve unusually high costs. Further, demonstration projects are essential to an accurate determination of causes of erosion. To assure accurate assignment of responsibility upon consideration of all pertinent factors and to provide improved and less costly techniques for dealing with this problem, we urge adequate funding, in line with the capabilities of the Corps of Engineers, of this program and expeditious completion of the authorized study together with continued monitoring after all demonstration projects have been constructed. We recommend also that consideration be given to existing requirements of local cooperation to determine their propriety with regard to demonstration projects of an experimental nature.

V. HEIGHTENED IMPORTANCE OF THE OHIO BASIN PROGRAM IN THE CURRENT ERA

The Ohio Basin represents a body of water resource potentials the high promise of which has stood for years as an incentive for expeditious development and conservation in the interest of a growing national population of rising social and economic aspiration. But, the special problems of the 1980's--the inflation-unemployment dilemma, the dedication to social and environmental objectives, and the necessity for greatly expanded utilization of the Nation's domestic energy reserves--impart a still higher urgency to this incentive. It is in this context that the Ohio Valley Improvement Association earnestly recommends expeditious progress on the projects herein recommended.

O.V.I.A. RECOMMENDATIONS FOR FISCAL YEAR 1982

NAVIGATION

MAIN STREAM OF THE OHIO RIVER

	President's Budget Request FY 1982	**OVIA Recommendations FY 1982
Continued Construction		
Emsworth Locks & Dam, PA (Major Rehab.)	$14,300,000	$14,300,000
Smithland Locks & Dam, IL & KY	1,300,000	1,300,000
Uniontown Locks & Dam, IN & KY	1,014,000	1,014,000 (C)
Locks & Dam 52, IL & KY (Major Rehab.)	5,200,000	5,200,000
Locks & Dam 53, IL & KY (Major Rehab.)	3,200,000	3,200,000
Willow Island Locks & Dam, OH & WV	670,000	670,000
Cannelton Locks & Dam, IN & KY	1,107,000	1,107,000 (C)
Hannibal Locks & Dam, OH & WV	-0-	360,000 (C)
Newburgh Locks & Dam, IN & KY	600,000	600,000
Initiate Advance Engineering & Design, Subject to Authorization		
Gallipolis Replacement Facilities		(X)

TRIBUTARIES OF THE OHIO

Initiate Advance Engineering & Design, Subject to Authorization		
Grays Landing Lock, Monongahela River, PA		(X)
Point Marion Lock, Monongahela River, PA		(X)

Continued Construction

Tennessee-Tombigbee Waterway, AL & Miss	204,000,000	222,000,000 (*)

FLOOD CONTROL

RESERVOIRS

Continue Advance Engineering and Design

Louisville Lake, IL	150,000	150,000

Continue Construction

Alum Creek Lake, OH	1,400,000	1,400,000
Beech Fork Lake, WV	2,070,000	2,070,000

X - Such Amount as the Corps of Engineers may Report as its Capability
C - Complete Construction
* - Advance Initiation of 11 Contracts
** - Equivalent to Corps of Engineers Capability Unless Otherwise Noted

FLOOD CONTROL

	President's Budget Request FY 1982	**OVIA Recommendations FY 1982
Continued Construction		
Burnsville Lake, WV	$ 5,800,000	$ 5,800,000
Caesar Creek Lake, OH	2,000,000	2,000,000
Cave Run Lake, KY	6,000,000	6,000,000
Kinzua Dam & Allegheny Reservoir, PA & NY (Major Rehab.)	950,000	950,000
Muskingum River Lakes (Major Rehab.)	5,320,000	5,320,000
Muskingum River Lakes (Dam Safety Assurance)	2,400,000	2,400,000
Paintsville Lake, KY	3,550,000	3,550,000
R. D. Bailey Lake, WV	6,000,000	6,000,000
Stonewall Jackson Lake, WV	18,300,000	18,300,000
Taylorsville Lake, KY	14,000,000	14,000,000
William H. Harsha Lake, OH	2,700,000	2,700,000

LOCAL PROTECTION PROJECTS

Initiate Advance Engineering and Design (Subject to Authorization)

Camp Ground Lake, KY	-0-	(#)
Cabin Creek, WV (Strip Mining Reclamation)	-0-	(#)
Saw Mill Run, PA	-0-	(#)

Continue Advance Engineering and Design

Russell and Allison Levee, IL	-0-	150,000

C - Complete Construction
# - Such Amount as Corps of Engineers may Report as its Capability
** - Equivalent to Corps of Engineers Capability Unless Otherwise Noted

	President's Budget Request FY 1982	**OVIA Recommendations FY 1982	
Continue Construction			
Chillicothe, OH	$ 6,700,000	$ 6,700,000	
Dayton, KY	380,000	380,000	(C)
Evansville, IN	4,380,000	4,380,000	
Levee Unit 5, IN	960,000	960,000	
Levisa & Tug Fork of the Big Sandy & Cumberland River, WV, VA & KY	-0-	7,500,000	
Mill Creek, OH	7,000,000	7,000,000	
Newark, OH (Log Pond Run)	1,871,000	1,871,000	
Southwestern Jefferson County, KY	14,400,000	14,400,000	
SPECIAL PROJECTS			
Big South Fork National River & Recreational Area, KY & TN	26,900,000	26,900,000	
SURVEYS			
Navigation Studies			
Green and Barren Rivers, KY	100,000	100,000	
Lower Cumberland & Tennessee Rivers (Below Barkley Canal)	200,000	200,000	
Kanawha River	830,000	830,000	(IS)
Big Sandy River, KY, WV, VA	550,000	550,000	
Flood Control			
Allegheny River Basin, PA & NY	100,000	100,000	
Beaver River Basin, OH & PA	150,000	150,000	
Central Ohio Survey, OH	240,000	240,000	
Guyandotte River Basin, WV	360,000	360,000	
Kanawha River Basin, Comprehensive Study, WV	400,000	400,000	
Kentucky River National Recreation Area, KY	-0-	100,000	(RS)
Kentucky River & Tributaries	300,000	300,000	
Kiskiminetas River Basin, PA	400,000	400,000	
Miami, Little Miami & Mill Creek Basins	350,000	350,000	
Monongahela-Youghiogheny River Basin, MD, PA, & WV	$ 500,000	$ 500,000	
Muskingum River Basin	200,000	200,000	
Ohio River Main Stem (FDP)	1,200,000	1,200,000	
Pigeon Creek, IN	-0-	100,000	(RS)
Saylersville, KY	-0-	100,000	(IS)
Upper Allegheny Basin, NY & PA	200,000	200,000	
Upper Cumberland Basin, KY	200,000	200,000	
Wabash River Basin, IL & IN (Authorization Rep.)	250,000	400,000	
Whitewater River & Tributaries, IN & OH	-0-	100,000	(RS)
METROPOLITAN REGION STUDIES			
Special Studies			
Metropolitan Region of Louisville, KY	-0-	100,000	(IS)
Metropolitan Region of Nashville, TN	250,000	250,000	

SURVEYS

CONTINUATION OF PLANNING AND ENGINEERING STUDIES

	President's Budget Request FY 1982	**OVIA Recommendations FY 1982
Central Ohio Survey at Logan, OH	200,000	200,000
Central Ohio Survey at Nelsonville, OH	200,000	200,000
Miami River Basin Survey in Vicinity of Holes Creek at West Carrolton, OH	-0-	200,000
Muskingum River Basin Survey at Killbuck, OH	200,000	200,000
Muskingum River Basin Survey at Mansfield, OH	200,000	200,000

IS - Initiate Study
C - Complete Construction
** - Equivalent to Corps of Engineers Capability Unless Otherwise Noted
RS - Resume Study

SUMMARY

OVIA'S INDUSTRIAL INVESTMENT-EXPANSION SURVEY

1977 - 1978

SUMMARY OF STATISTICAL INFORMATION ON INDUSTRIAL EXPANSION IN THE OHIO VALLEY SURVEY AREA BETWEEN 1950 AND 1978 BY STATES

STATE	1950-1976 SURVEYS	1977-1978 SURVEYS	TOTAL 1950-1978
Alabama	$ 6,248,948,736	$ 768,903,200	$ 7,017,851,936
Georgia	4,500,000	-0-	4,500,000
Illinois	396,025,968	11,747,744	407,773,712
Indiana	1,569,420,234	274,854,273	1,844,274,507
Kentucky	8,813,509,322	1,760,222,302	10,573,731,624
Mississippi	16,840,000	137,182,000	154,022,000
Ohio	8,224,859,381	509,849,313	8,734,708,694
Pennsylvania	11,853,096,313	1,259,496,855	13,112,593,168
Tennessee	11,221,502,613	1,487,182,387	12,708,685,000
West Virginia	4,989,964,371	950,900,232	5,940,864,603
Survey Area	3,126,101,000	10,772,794	3,136,873,794
TOTALS	56,464,767,938	7,171,111,100	63,635,879,038

S U M M A R Y

OHIO VALLEY INDUSTRIAL EXPANSION/INVESTMENT SURVEY

BY INDUSTRY

INDUSTRY	1950-1976 SURVEYS	1977-1978 SURVEY	1950-1978 TOTAL
Food and kindred products	$ 400,855,836	$ 80,212,622	$ 481,069,458
Communications	4,933,241,640	462,731,032	5,395,972,672
Tobacco manufacturers	103,566,000	13,482,000	117,048,000
Transportation facilities Rail, Water and Air	665,239,597	53,885,617	709,125,214
Textile and Mill Products	147,158,000	2,821,208	149,979,208
Tractors and farm implements	62,061,000	-0-	62,061,000
Apparel and related products	87,860,000	1,750,000	89,610,000
Atomic Energy operation	3,682,594,212	148,140,000	3,830,734,212
Lumber and wood products	45,400,000	3,039,625	48,439,625
Furniture and fixtures	26,650,000	1,000,000	27,650,000
Pulp, paper and rpoducts	846,163,916	223,910,400	1,070,074,316
Printing and Publishing	151,711,262	981,015	152,692,277
Chemicals and products	4,309,648,453	100,544,400	4,420,192,853
Petroleum products	294,243,336	110,720,744	404,964,080
Coal products	1,066,063,096	175,272,000	1,241,335,096

OHIO VALLEY INDUSTRIAL EXPANSION/INVESTMENT SURVEY

BY INDUSTRY

INDUSTRY	1950-1976 SURVEYS	1977-1978 SURVEY	1950-1978 TOTAL
Rubber products	125,850,000	10,400,000	136,260,000
Leather and leather products	31,854,000	-0-	31,854,000
Stone, clay and glass products	636,183,921	60,576,000	696,759,921
Iron and steel manufacturers	5,926,743,062	133,488,010	6,060,231,072
Metal fabricators	591,490,805	22,251,000	613,741,805
Non-ferrous metals	2,652,713,000	583,480,000	3,236,193,000
Machinery except electrical	233,158,000	5,900,000	239,058,000
Research center	509,344,000	11,965,490	521,309,490
Electrical machinery	401,521,813	16,635,805	418,157,618
Transportation equipment	901,127,955	39,693,000	940,820,955
Instruments and related products	148,301,000	3,600,000	151,901,000
Miscellaneous manufacturers, including ordnance	798,606,188	23,062,867	821,669,055
Administrative and Auxiliary-Offices and Warehouses	202,486,900	329,799,500	532,286,400
Appliances	403,165,886	11,026,000	414,191,886
Gas and Electric Utilities and Electric Generating Plants	25,666,340,601	4,539,611,559	30,205,952,160
Oil and Gas Pipelines	413,424,459	1,131,206	414,555,665
TOTALS	$56,464,767,938	7,171,111,100	63,635,879,038

APPENDIX--FISCAL YEAR 1982 FUNDING CAPABILITIES

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES
(Amounts in Thousands)

Congressional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
PA 23 NY 39	Allegheny River Basin, PA & NY (FDP)	1,950.0	100	100	No additional requirement.
KY 3,4	Beargrass Creek Basin, Jefferson Co., KY (FDP)	274.6	0	0	Fully funded. Report submitted to OMB, 27 Sep 79.
PA 25 OH 19	Beaver-Mahoning Rivers Canalization, OH & PA (N)	850.0	0	0	Lack of recent expression of local interest.
PA 24,25 OH 19	Beaver River Basin, OH & PA (FDP)	1,500.0	150	150	No additional requirement.
KY 7 VA 9 WV 4	Big Sandy River, KY, VA & WV (FDP&N)	3,445.0	550	550	No additional requirement.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES
(Amounts in Thousands)

ongressional istricts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
V 3	Cabin Creek, WV Demonstration Reclamation Project (FDP)	179.1	0	0	Fully funded.
L 24	Cache River (Upper Basin) IL (FDP)	65.0	0	0	Lack of recent expression of local interest.
H 4,6,7 0,12,15	Central Ohio (FDP)	2,763.0	240	240	No additional requirement.
A 18,22	Chartiers Creek, PA (FDP)	320.0	0	0	Study will continue with available funds.
Y 1	Clarks River Basin, KY (FDP)	300.0	0	0	Study will continue with available funds.

OHIO RIVER BASIN
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES
(Amounts in Thousands)

ongressional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
IN 9	Columbus, IN (FDP)	287.0	0	0	Fully funded.
WV 2,3	Gauley River, WV (FDP)	1,072.5	0	0	Fully funded.
OH 4	Grand Lake, St. Marys, OH (FDP)	283.0	0	0	Fully funded.
KY 1,2	Green and Barren Rivers, KY (N)	1,158.0	100	100	No additional requirement.
WV 3,4	Guyandotte River Basin, Vicinity of Logan and Mullens, WV (FDP)	1,304.0	360	360	No additional requirement.
IN 6,11	Indianapolis, IN (FDP)	430.0	0	0	Lack of recent expression of local interest.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES
(Amounts in Thousands)

Congressional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
NC 5,10 VA 5,9 WV 2,3,4	Kanawha Basin Comprehensive Study (Authorization) (C)	3,094.0	400	400	No additional requirement.
WV 3	Kanawha River Navigation Study, WV (N)	2,530.0	830	830	No additional requirement.
KY 4,5 6,7	Kentucky River National Recreation Area, KY (SP)	350.0	0	100	Resume study.
KY 4,5 6,7	Kentucky River and Tributaries, KY (FDP)	1,550.0	300	300	No additional requirement.
PA 12,21	Kiskiminetas River Basin, KY (FDP)	1,850.0	400	400	No additional requirement.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES

(Amounts in Thousands)

Congres- sional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
IN 9 KY 3,4	Louisville Harbor, KY (N)	92.0	0	0	Fully funded.
KY 1	Lower Cumberland and Tennessee River below Barkley Canal, KY (N)	917.0	200	200	No additional requirement.
OH 1,2	Metropolitan Region of Cincinnati, OH (FDP)	2,200.0	0	0	Lack of local cooperation.
KY 7 OH 6,10 WV 4	Metropolitan Region of Huntington, WV, Ashland, KY and Portsmouth, OH (FDP)	2,364.4	0	0	Fully funded.
KY 6	Metropolitan Region of Lexington, KY (FDP)	1,085.3	0	0	Fully funded.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES

(Amounts in Thousands)

Congressional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
KY 3,4	Metropolitan Region of Louisville, KY (FDP)	430.0	0	100	Initiate study.
TN 4,5 6	Metropolitan Region of Nashville, TN (FDP)	2,563.0	250	250	No additional requirement.
OH 18 WV 1,2	Metropolitan Region of Wheeling, WV (FDP)	1,950.0	0	0	Fully funded.
OH 1,2 6,8	Miami River, Little Miami River, and Mill Creek Basins, OH (FDP)	3,500.0	350	350	No additional requirement.
OH 19	Milton Dam and Reservoir, Mahoning River, OH (NF)	150.0	0	0	Study will continue with available funds.
MD 6 PA 21,22 WV 1,2	Monongahela-Youghiogheny River Basin, MD, PA & WV (FDP)	3,690.0	500	500	No additional requirement.
IN 8	Mount Vernon, IN (FDP)	110.0	0	0	Lack of recent expression of local interest.
IN 8	Mount Vernon Harbor, IN (N)	100.0	0	0	Harbor being developed by local interests.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES
(Amounts in Thousands)

Congressional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
OH 10,12 13,14,16 17,18	Muskingum River, OH (FDP)	1,775.0	200	200	No additional requirement.
OH 6,10 18	Ohio Port Authorization Studies (N)	109.0	0	0	Fully funded.
NA	Ohio River Main Stem (FDP)	5,100.0	1,200	1,200	No additional requirement.
NA	Ohio River 12 ft. Channel (N)	3,200.0	0	0	Deferred pending results of studies under Section 158 (WRDA-76).
NA	Ohio and Kanawha Rivers, WV (Eroding Bank)	629.0	0	0	Deferred pending analysis of results from Section 32 demonstration program.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES
(Amounts in Thousands)

Congres-sional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
IN 8	Pigeon Creek, IN (FDP)	366.5	0	100	Resume study.
IN 24	Saline River and Tributaries IL (FDP)	156.0	0	0	Fully funded.
KY 7	Saylersville, KY (FDP)	500.0	0	100	Initiate study.
OH 18 PA 25	Southeast Ohio Survey (FDP)	745.0	0	0	Lack of recent expression of local interest.

study.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES

AUTHORIZED STUDIES
(Amounts in Thousands)

Congressional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
IN 8	Tell City, IN (FDP)	52.5	0	0	Fully funded.
KY 1	Tradewater River Basin, KY (FDP)	360.0	0	0	Lack of recent expression of local interest.
PA 20,21	Turtle Creek Basin, PA (FDP)	600.0	0	0	Lack of recent expression of local interest.
NY 39 PA 23	Upper Allegheny River Basin, NY & PA (FDP)	1,080.0	0	0	Study will continue with available funds.
KY 5	Upper Cumberland River Basin, KY (FDP)	1,550.0	200	200	No additional requirement.
IL 22,24 IN 8	Wabash River below Mt. Carmel, IL & IN (N)	NA	NA	NA	Included in the Wabash River navigation study.
IL 22,24 In 2,4,5 6,7,8,9, 10,11	Wabesh River Basin (Authorization Report), IL & IN (C)	2,750.0	250	350	Assures scheduled completion of the study.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES
(Amounts in Thousands)

Congressional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
NA	Water Resources Benefit Cost Study of Ohio River Basin (1974 WRDA, Section 41) (FDP)	2,000.0	0	0	Lack of recent expression of local interest.
KY 2 TN 6	West Fork of Drakes Creek, TN & KY (FDP)	107.8	0	0	Lack of recent expression of local interest.
IN 9,10 OH 2,8	Whitewater River and Tributaries, IN & OH (FDP)	533.0	0	100	Resume study.
OH 6	Whitewater Canoe-Kayak Slalom Course, Meldahl Locks and Dam, Ohio River (N)	50	0	0	Lack of local interest.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES
(Amounts in Thousands)

Congressional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
KY 2	Camp Ground Lake, KY (Phase I) (FDP)	2,900.0 (1,400.0)	460	460	No additional requirement.
PA 12,23	Clarion River Basin, Acid Mine Drainage (Phase I) (FDP)	1,900.0 (467.0)	0	0	Study will be completed with available funds.
OH 10 WV 3	Gallipolis Locks and Dam, OH & WV (Phase I) (N)	4,750.0 (3,165.0)	0	0	Fully funded.
KY 7 VA 9 WV 4	Tug Fork Valley, Big Sandy River Basin, KY, VA, & WV (Phase I) (FDP)	6,500.0 (3,828.2)	0	0	Fully funded.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
AUTHORIZED STUDIES
(Amounts in Thousands)

Congres-sional Districts	Study and State	Estimated Federal Cost	Amount Included in President's Budget	Study Capability	Purpose of Additional Capability
OH 10	Central Ohio Survey at Logan, Ohio (FDP)	600.0	200	200	No additional requirement.
OH 10	Central Ohio Survey at Nelsonville, Ohio (FDP)	600.0	200	200	No additional requirement.
OH 38	Miami River Basin Survey in Vicinity of Holes Creek at West Carrolton, OH (FDP)	300.0	0	200	Initiate study.
OH 17	Muskingum River Basin Survey at Killbuck, OH (FDP)	700.0	200	200	No additional requirement.
OH 17	Muskingum River Basin Survey at Mansfield, Ohio (FDP)	550.0	200	200	No additional requirement.

(N)	Navigation	(RA)	Review of authorized projects
(FDP)	Flood damage prevention	(NA)	Not appropriate
(C)	Comprehensive	(SP)	Special

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
CONSTRUCTION PROJECTS
(Amounts in Thousands)

Congressional Districts	Project and State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
OH 12	Alum Creek Lake, OH	56,300.0[1]	1,400 (C)	1,400 (C)	No additional requirement.
WV 4	Beech Fork Lake, WV	46,800.0[1]	2,070 (C)	2,070 (C)	No additional requirement.
KY 5 TN 2	Big South Fork National River and Recreation Area, KY & TN	278,000.0[1]	26,900 (C)	26,900 (C)	No additional requirement.
WV 3	Burnsville Lake, WV	55,300.0[1]	5,800 (C)	5,800 (C)	No additional requirement.
OH 6, 7	Caesar Creek Lake, OH	64,000.0[1]	2,000 (C)	2,000 (C)	No additional requirement.
IN 8, 9 KY 2,3,4	Cannelton Locks and Dam IN & KY	97,000.0[1]	1,107 (C)	1,107 (C)	Complete project.
KY 7	Cave Run Lake, KY	77,800.0[1]	6,000 (C)	6,000 (C)	No additional requirement.
PA 18,22	Chartiers Creek, PA	31,000.0	0	0	Lack of local cooperation.
OH 6	Chillicothe, OH	21,700.0[1]	6,700 (C)	6,700 (C)	No additional requirement.
KY 4	Dayton, KY	12,820.0[1]	380 (C)	380 (C)	Complete project.
WV 4	East Lynn Lake, WV	34,826.0[1]	0 (C)	0 (C)	Fully funded.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
CONSTRUCTION PROJECTS
(Amounts in Thousands)

Congressional Districts	Project and State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
PA 18	Emsworth Locks & Dam, Ohio River, PA (MR)	30,100.0[1]	14,300 (MR)	14,300 (MR)	No additional requirement.
IN 8	Evansville, IN	55,100.0[1]	4,380 (C)	4,380 (C)	No additional requirement.
OH 18 VW 1	Hannibal L's & D, OH & WV	88,400.0	0	360 (C)	Construction of Fisherman Access Area at dam abutment.
KY 39 PA 23	Kinzua Dam & Allegheny Reservoir, PA & NY (Major Rehabilitation)	6,000.0[1]	950 (MR)	950 (MR)	No additional requirement.
KY 5	Laurel River Lake, KY	59,700.0[1]	6,100 (C)	6,100 (C)	No additional requirement.
IN 8	Levee Unit 5, IN	8,630.0[1]	960 (C)	960 (C)	No additional requirement.
KY 57 WV 4 VA 9	Levisa & Tug Fork of the Big Sandy & Cumberland River, WV, VA, & KY	694,000.0[1]	0 (C)	7,500 (C)	Continue construction engineering and design, initiate construction at South Williamson, KY and Pineville KY and acquire real estate at West Williamson, WV; Stepptown, WV and Barbourville, KY

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
CONSTRUCTION PROJECTS
(Amounts in Thousands)

Congressional Districts	Project and State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
IL 24 KY 1	Locks and Dam 52, IL & KY (Major Rehabilitation)	11,900.0[1]	5,200 (MR)	5,200 (MR)	No additional requirement.
IL 24 KY 1	Locks and Dam 53, IL & KY (Major Rehabilitation)	7,200.0[1]	3,200 (MR)	3,200 (MR)	No additional requirement.
KY 7	Martin, KY	9,410.0[1]	0 (C)	0 (C)	Lack of local cooperation.
OH 1,2,8	Mill Creek, OH	326,000.0[1]	7,000 (C)	7,000 (C)	No additional requirement.
PA 20	Monongahela River, Locks and Dam 3, PA (Major Rehabilitation)	18,177.0[1]	0 (MR)	0 (MR)	Fully funded.
OH 10,16 17,18	Muskingum River Lakes, OH (Major Rehabilitation)	72,400.0[1]	5,320 (MR)	5,320 (MR)	No additional requirement.
OH 10,16 17,18	Muskingum River Lakes, (Dam Safety Assurance)	68,800.0[1]	2,400 (DS)	2,400 (DS)	No additional requirement.
OH 17	Newark, OH (Log Pond Run)	7,000.0[1]	1,871 (C)	1,871 (C)	No additional requirement.
IN 8 KY 2	Newburgh Locks and Dam, IN & KY	104,700.0[1]	600 (C)	600 (C)	No additional requirement.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
CONSTRUCTION PROJECTS
(Amounts in Thousands)

Congressional Districts	Project and State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
KY 7	Paintsville Lake, KY	59,100.0 1/	3,550 (C)	3,550 (C)	No additional requirement.
IN 8	Patoka Lake, IN	53,105.9 1/	0 (C)	0 (C)	Fully funded.
WV 4	R. D. Bailey Lake, WV	189,000.0 1/	6,000 (C)	6,000 (C)	No additional requirement.
IL 24 IN 8 KY 1	Smithland L's & D, IL & KY	271,000.0 1/	1,300 (C)	1,300 (C)	No additional requirement.
KY 4	Southwestern Jefferson County, KY	66,600.0 1/	14,400 (C)	14,400 (C)	No additional requirement.
WV 2	Stonewall Jackson Lake, WV	189,000.0 1/	18,300 (C)	18,300 (C)	No additional requirement.
KY 2	Taylorsville Lake, KY	102,000.0 1/	14,000 (C)	14,000 (C)	No additional requirement.
AL 4,7 MS 1,2,3	Tennessee-Tombigbee Waterway, AL & MS Mobile District Nashville District	1,780,000.0 1/ (1,068,000.0) 1/ (712,000.0) 1/	204,000 (C) (102,000) (C) (102,000) (C)	222,000 (C) (117,000) (C) (105,000) (C)	Advance initiation of 11 contracts currently scheduled to be awarded after FY 82. Does not advance project completion.
IN 8 KY 1	Uniontown L's & D, IN & KY	100,900.0 1/	1,014 (C)	1,014 (C)	Complete project.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
CONSTRUCTION PROJECTS
(Amounts in Thousands)

Congressional Districts	Project and State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
OH 6	William H. Harsha Lake, OH	54,800.0[1]	2,700 (C)	2,700 (C)	No additional requirement.
OH 10 WV 1	Willow Island, L's & D, OH & WV	78,100.0[1]	670 (C)	670 (C)	No additional requirement.
KY 7	Yatesville Lake, KY	93,800.0[1]	6,900 (C)	6,900 (C)	No additional requirement.

(C) Construction
(MR) Major Rehabilitation
(DS) Dam Safety Assurance

[1] Cost estimate includes an allowance for inflation through the construction period.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
CONSTRUCTION PROJECTS
(Amounts in Thousands)

Congressional Districts	Project & State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
RECREATION FACILITIES AT COMPLETED PROJECTS					
KY 1 TN 6, 7	Barkley Dam & Lake Barkley, TN & KY	1,865.8	186	238	
	Sanitation (711)		(100)	(152)	E&D for restrooms at Hickman Cr., Lick Cr., Linton and Guises Cr. sites.
	Cost-Sharing (713)		(86)	(86)	No additional requirement.
TN 4	Center Hill Dam & Reservoir, TN	9,431.3	23	83	
	Sanitation (711)		(23)	(23)	No additional requirement.
	Cost-Sharing (713)		(0)	(60)	Improvements at Betty Island, Nolls Island, and Stonewall sites.
OH 7	C.J. Brown Dam & Res., OH	900.0	0	900	
	Sanitation (711)		N/A	N/A	
	Cost-Sharing (713)		(0)	(900)	Engineering & Design & Construct Picnic & Camping Facilities at State Park.
TN 5, 6	Cheatham L&D, TN	1,330.0	0	1,100	
	Sanitation (711)		N/A	N/A	
	Cost-Sharing (713)		(0)	(1,100)	Restroom and walls at Nashville Riverfront, launching ramp, picnic area at Ashland City, launching area at Cockrill Bend.

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
CONSTRUCTION PROJECTS
(Amounts in Thousands)

Congressional Districts	Project & State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
TN 4	Cordell Hull Dam & Reservoir, TN	4,525.1	0	190	
	Sanitation (711)		(0)	(190)	Showers at Defeated Creek, and municipal water at Right Bank, Dam site.
	Cost-Sharing (713)		N/A	N/A	
TN 4 KY 5	Dale Hollow Lake, TN & KY	13,183.4	0	26	
	Sanitation (711)		(0)	(26)	Planning for sanitary facilities at Pleasant Grove, Cove Creek and First Island sites.
	Cost-Sharing (713)		(0)	(0)	
PA 23	East Branch Clarion River Lake, PA	336.8	180	180	
	Sanitation (711)		(180)	(180)	No additional requirement.
	Cost-Sharing (713)		N/A	N/A	
KK 7	Fishtrap Lake, KY	425.0	155	155	
	Sanitation (711)		(155)	(155)	No additional requirement.
	Cost-Sharing (713)		N/A	N/A	

OHIO RIVER DIVISION
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CONSTRUCTION PROJECTS
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Congressional Districts	Project & State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
WV 4	Greenup L&D, Ohio River, WV	2,100.0	0	1,000	
	Sanitation (711)		N/A	N/A	
	Cost-Sharing (713)		(0)	(1,000)	City of Huntington, WV.
VA 9	John W. Flannagan/	800.0	325	460	
	Dam and Res., VA		(325)	(460)	Restroom facilities at Pound River.
	Sanitation (711)				
	Cost-Sharing (713)		N/A	N/A	
TN 5, 4	J. Percy Priest Dam and Reservoir, TN	4,164.3	193	444	
	Sanitation (711)		(152)	(152)	No additional requirement.
	Cost-Sharing (713)		(41)	(292)	Restroom and parking at Long Hunter site. Construct campground at Long Hunter State Park.
PA 19	Mahoning Creek Lake, PA	1,262.0	187	187	No additional requirement.
	Sanitation (711)		(0)	(0)	
	Cost-Sharing (713)		(187)	(187)	

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
CONSTRUCTION PROJECTS
(Amounts in Thousands)

Congressional Districts	Project & State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
KY 5	Martins Fork Lake, KY	360.0	100	100	
	Sanitation (711)		N/A	N/A	
	Cost-Sharing (713)		(100)	(100)	No additional requirement.
KY 2	Nolin Lake, KY	3,675.0	0	690	
	Sanitation (711)		(0)	(690)	Construct Sanitary Facilities at Dog Creek.
	Cost-Sharing (713)		(0)	(0)	
TN 5	Old Hickory L&D, TN	3,891.3	100	300	
	Sanitation (711)		(100)	(100)	No additional requirement.
	Cost-Sharing (713)		(0)	(200)	Launching ramp, shelters, restroom and parking at Hartsville site.
KY 2	Rough River Lake, KY	2,284.5	0	585	
	Sanitation (711)		(0)	(585)	Construct Sanitary Facilities at Laurel Branch.
	Cost-Sharing (713)		(0)	(0)	
WV 3	Summersville Lake, WV	700.0	0	225	
	Sanitation (711)		(0)	(225)	Restrooms and sewage treatment at Below Dam.
	Cost-Sharing (713)		N/A	N/A	

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
CONSTRUCTION PROJECTS
(Amounts in Thousands)

Congres- sional Districts	Project & State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
WV 2&3	Sutton Lake, WV	2,100.0	410	410	
	Sanitation (711)		(410)	(410)	No additional requirement.
	Cost-Sharing (713)		N/A	N/A	
PA 23	Tionesta Lake, PA	2,585.1	229	229	
	Sanitation (711)		(229)	(229)	No additional requirement.
	Cost-Sharing (713)		N/A	N/A	
WV 2	Tygart Lake, WV	1,450.0	550	550	
	Sanitation (711)		N/A	N/A	
	Cost-Sharing (713)		(550)	(550)	No additional requirement.
OH 2	West Fork Mill Creek, OH	891.0	0	270	
	Sanitation (711)		(N/A)	(N/A)	
	Cost-Sharing (713)		(0)	(270)	Construct Roads, Campsites and Wash Buildings.
WV 3	Winfield L&D, WV	1,300.0	615	775	No additional requirement.
	Sanitation (711)		N/A	N/A	
	Cost-Sharing (713)		(615)	(775)	Engineering and Design for Nitro and St. Albans ($160).

OHIO RIVER DIVISION
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CONSTRUCTION PROJECTS
(Amounts in Thousands)

Congressional Districts	Project & State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
KY 5	Wolf Creek Dam, KY	3,979.0	194	194	No additional requirement.
	Sanitation (711)		(56)	(56)	
	Cost-Sharing (713)		(138)	(138)	
PA 24	Woodcock Creek Lake, PA	1,111.0	1,068	1,068	
	Sanitation (711)		(1,068)	(1,068)	No additional requirement.
	Cost-Sharing (713)		N/A	N/A	
PA 12	Youghiogheny River Lake, PA & MD	3,671.4	240	240	
	Sanitation (711)		(240)	(240)	No additional requirement.
	Cost-Sharing (713)		N/A	N/A	

OHIO RIVER DIVISION
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OPERATION AND MAINTENANCE
(Amounts in Thousands)

Congressional Districts	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
PA 12, 14, 18	Allegheny River, PA	N	$3,025	$3,941	Purchase & Install Hydro Turbine Generators--Locks 2 & 6.	350
					Repair Riverwall Concrete-Locks 2 & 4.	177
					Anchorage Units, Heating Systems, Doors, Insulation-Locks 2-9.	146
					Repair Landwall & Explanade-Lock 4.	143
					Repair Monolith Joints-Locks 2 and 3	100
						916
OH 12	Alum Creek Lake, OH	FC	432	432	No additional requirement.	
KY 1 TN 7, 6	Barkley Dam & Lake Barkley, KY & TN	MP	4,135	4,630	Provide shop building;	100
					Rehabilitate recreation facilities;	100
					Repair breakwater-Ken Bar; Improve 6 launching ramps.	195
					Repair tainter gate chains.	100
						495

OHIO RIVER DIVISION
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OPERATION AND MAINTENANCE
(Amount in Thousands)

Congressional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
KY 2	Barren & River Lake, Lake, KY	FC	809	1,804	Pave roads and parking lots at Narrows and Beaver Creek recreation areas.	121
					Rehabilitate tailwater recreation area.	313
					Construct visitor center.	561
						995
WV 4	Beech Fork Lake, WV	FC	485	485	No additional requirement.	
OH 19	Berlin Lake, OH	FC	1,618	1,618	No additional requirements.	
VA 9 WV 2	Bluestone Lake, WV	FC	584	584	No additional requirement.	
IN 9, 10	Brookville Lake, IN	FC	396	396	No additional requirement.	
KY 5	Buckhorn Lake, KY	FC	845	845	No additional requirements.	
WV 3	Burnsville Lake WV	FC	638	638	No additional requirement.	
OH 6, 15	Caesar Creek Lake, OH	FC	312	312	No additional requirement.	

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OPERATION AND MAINTENANCE
(Amount in Thousands)

Congressional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
IN 7	Cagles Mill Lake, IN	FC	340	440	Purchase operating equipment and sewage treatment system.	100
KY 7	Carr Fork Lake, KY	FC	658	658	No additional requirement.	
KY 7	Cave Run Lake, KY	FC	350	350	No additional requirement.	
IN 7	Cecil M. Harden Lake, IN	FC	300	524	Boundary monumentation.	224
TN 4	Center Hill Lake, TN	MP	2,550	2,850	Pave roads and parking areas;	100
					Replace project equipment;	100
					Bank stabilization-damsite left bank.	100
						300
TN 5, 6	Cheatham L&D, TN	MP	2,359	4,459	Dredge approach to 2 mooring cells mile 215.7.	150
					Purchase materials--2 mooring cells mile 215.7.	150
					Construct 2 mooring cells mile 215.7.	100
					Replace tainter gate chains.	700

OHIO RIVER DIVISION

FISCAL YEAR 1982 FUNDING CAPABILITIES
OPERATION AND MAINTENANCE
(Amount in Thousands)

Congres-sional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
					Repair tainter gates-leakage.	1,000 2,100
OH 7	C.J. Brown Dam & Res., OH	FC	409	409	No additional requirement.	
PA 22	Conemaugh River Lake, PA	FC	574	574	No additional requirement.	
TN 4	Cordell Hull Dam & Res., TN	MP	2,813	3,183	Rehabilitate recreation facilities;	100
					Pave roads and parking areas.	270 370
PA 12	Crooked Creek Lake, PA	FC	1,055	1,298	Construct Maintenance Building	243
TN 4 KY 5	Dale Hollow Lake, TN & KY	MP	2,866	3,256	Develop and rehabilitate trails; landscape recreation areas; develop wildlife area.	100
					Rehabilitate recreation areas.	120
					Repair and expand parking areas at docks.	150 370

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OPERATION AND MAINTENANCE
(Amount in Thousands)

Congressional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
OH 6	Deer Creek Lake, OH	FC	455	455	No additional requirement.	
OH 7, 12	Delaware Lake, OH	FC	348	348	No additional requirement.	
KY 7	Dewey Lake, KY	FC	748	748	No additional requirement.	
OH 10, 17	Dillon Lake, OH	FC	310	310	No additional requirement.	
PA 23	East Branch, Clarion River, PA	FC	947	1,234	Remove Debris from Spillway; Resurface Access Road.	158 129 287
WV 4	East Lynn Lake, WV	FC	696	696	No additional requirement.	
WV 2	Elkins, WV	FC/CI	6	6	No additional requirement.	
KY 7	Fiantrap Lake, KY	FC	790	790	No additional requirement.	
KY 7	Grayson Lake, KY	FC	564	564	No additional requirement.	
KY 1, 2	Green & Barren Rivers, KY	N	1,244	1,804	Replace lower guidewall, Lock No. 3.	560

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OPERATION AND MAINTENANCE
(Amount in Thousands)

Congressional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
KY 5	Green River Lake, KY	FC	1,399	1,399	No additional requirements	
IN 4, 10	Huntington Lake, IN	FC	355	355	No additional requirement.	
PA 12	Johnstown, PA	FC/CI	8	197	Periodic Inspection; Prepare Plans & Specs for major maintenance	189
VA 9	John W. Flannagan Dam & Res., VA	FC	670	670	No additional requirement.	
TN 5, 4	J. Percy Priest Dam	MP	2,093	2,343	Repair riprap and bank stabilization.	150
					Visitor center display.	100
						250

OHIO RIVER DIVISION
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OPERATION AND MAINTENANCE
(Amount in Thousands)

Congressional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
WV 2 & 3	Kanawha River Locks and Dams	N	4,940	4,940	No additional requirement.	
KY 4, 5, 6	Kentucky River, KY[1]	N	1,000	1,956	Repair lower gate at Lock 2. Repair abutment & replace lower guidewall at Lock 3. Repair esplanades at Locks 1 & 2.	380 330 246 956
PA 23 NY 39	Kinzua Dam & Allegheny Reservoir, PA & NY	FC	1,137	1,612	FDM for Stilling Basin Repair.	475
KY 5	Laurel River Lake, KY	MP	675	675	No additional requirement.	
PA 21	Loyalhanna Lake, PA	FC	821	921	Repair Concrete Entrance Road.	100
PA 19	Mahoning Creek Lake, OH	FC	357	514	Maintain Dam, Recreation Facilities.	157

[1] No additional requirement for Locks 5-14 pending completion of studies to determine level of justified operation and maintenance.

OPERATION AND MAINTENANCE
(Amount in Thousands)

Congressional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
KY 5	Martins Fork Lake, KY	FC	472	472	No additional requirement	
OH 16	Massillon LPP, OH	FC	11	11	No additional requirement.	
OH 14	Michael J. Kirwan Dam & Reservoir, OH	FC	504	804	Maintain Recreation Facilities, Road repairs	140 160 300
KY 5	Middlesboro,Cumberland River Basin, KY	LP	90	90	No additional requirement.	
IN 4, 5	Mississinewa Lake, IN	FC	334	434	Control erosion in tailwater area.	100
PA 20, 22	Monongahela River, PA & WV	N	6,547	7,726	Paint Tainter Gates--Locks 4, 8. Pave Chamber Floor--Hildebrand. Repair Scour Area Below Dam 2.	275 710 194 1,179
IN 9	Monroe Lake, IN	FC	332	456	Remove outcropping above shop area.	124
OH 11	Mosquito Creek Lake, OH	FC	699	699	No additional requirement.	
OH 10, 16, 17, 18	Muskingum River Reservoir, OH (14 reservoirs)	FC	5,397	5,397	No additional requirement.	

OPERATION AND MAINTENANCE
(Amount in Thousands)

Congressional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
OH 17	Newark LPP, OH	FC	11	11	No additional requirement.	
KY 2	Nolin Lake, KY	FC	837	1,551	Rehabilitate Mountardier Recreation site. Construct visitor center.	153 561 714
OH 17	North Branch of Kokosing	FC	152	152	No additional requirement.	---
VA 9	North Fork of Pound Lake, VA	FC	472	472	No additional requirement.	
PA 18, 20 22,25	Ohio River L&D Construction, PA OH & WV	N	28,398	33,937		
	(Pittsburgh)		(7,122)	(9,622)	Rewire Service Bridge, Replace Tow Haulage System, Rehabilitation Study--Montgomery. Repair Large Chamber Gates--Dashields Montgomery. Repair Valves--Dashields, Montgomery, New Cumberland, Pike Island, Hannibal. Replace Sheet Pile Closures, Unwater Small Chamber, Paint Service Bridge & Bulkheads--New Cumberland. Seal Lock Walls--New Cumberland--Hannibal; Paint Dam Bulkheads--Pike Island.	659 170 465 1,066 140 2,500

OPERATION AND MAINTENANCE
(Amount in Thousands)

Congressional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
WV 1, 3, 4	(Huntington)		(9,675)	(9,675)	No additional requirement.	
IL 24 IN 8, 9 KY 1, 2, 3 4, 6, 7 OH 1, 2, 6 10, 18	(Louisville)		(11,601)	(14,640)	Purchase project signs and replacement plant.	145
					Purchase maneuver boats for Locks 52 and 53.	1,283
					Purchase spare emergency bulkheads for Markland Dam.	1,003
					Remove land walls at deactivated Locks 35 and 36.	154
					Plans & specs for improving navigation safety at the entrance to the Louisville and Portland Canal.	219
					Model study by WES of Markland Locks.	235
						3,039
PA 18, 20 22, 25	Ohio River Open Channel Work	N	6,338	6,521		
	(Pittsburgh)		(412)	(595)	Channel and canal snagging.	183
WV 1, 3, 4	(Huntington)		(2,498)	(2,498)	No additional requirement.	
IL 24 IN 8, 9 KY 1, 2, 3, 4, 6, 7 OH 1, 2, 6, 10, 18	(Louisville)		(3,428)	(3,428)	No additional requirement.	

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
OPERATION AND MAINTENANCE
(Amount in Thousands)

Congressional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
TN 5, 4	Old Hickory Lock & Dam, TN	MP	4,821	6,121	Rehabilitate Nashville Repair Station	100
					Bank stabilization-damsite left bank.	100
					Construct manager's office and visitor center.	600
					Dredging mile 305 - 308.	500
						1,300
OH 6	Paint Creek Lake, OH	FC	509	509	No additional requirement.	
KY 7	Paintsville Lake, KY	FC	495	495	No additional requirement.	
IN 8	Patoka Lake, IN	FC	280	280	No additional requirement.	
PA 12	Punxsutawney, PA	FC/CI	6	325	Removal of bar deposits and clearing in channel.	319
WV 4	R.D. Bailey Lake, WV	FC	627	627	No additional requirement.	
OH 10	Roseville LPP, OH	FC	11	11	No additional requirement.	

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
OPERATION AND MAINTENANCE
(Amount in Thousands)

Congressional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
KY 2	Rough River Lake, KY	FC	943	1,435	Resurvey boundary line.	224
					Rehabilitate N. Fork Recreation site and convert restroom facilities to solar energy.	100
					Construct Visitor Center.	168
						492
IN 4	Salamonie Lake, IN	FC	340	340	No additional requirement.	
PA 24 OH 11	Shenango River Lake, PA & OH	FC	1,709	1,995	Recreation-Facility repair	186
					Construct Ranger Station.	100
						286
WV 3	Summersville Lake, WV	FC	980	980	No additional requirement.	
WV 2, 3	Sutton Lake, WV	FC	1,014	1,014	No additional requirement.	
KY 1 TN 7, 6, 3 AL 1, 5, 4	Tennessee River, TN, AL & KY	NL	4,817	5,192	Purchase 6 valve bulkheads.	100
					Dredging mile 66; dredging Clinch River.	275
						375

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
OPERATION AND MAINTENANCE
(Amount in Thousands)

Congres-sional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
PA 23	Tionesta Lake, PA	FC	1,009	1,109	Repair Control Tower.	100
OH 10	Tom Jenkins Lake, OH	FC	194	194	No additional requirement.	
WV 2	Tygart River Lake, WV	N/FC	890	890	No additional requirement.	
PA 24	Union City Lake, PA	FC	236	236	No additional requirement.	
OH 2	West Fork Mill Creek Lake, OH	FC	380	480	Resurface roads in operations area.	100
OH 6	William H. Harsha Lake, OH	FC	327	327	No additional requirement.	
KY 5	Wolf Creek Dam Lake Cumberland, KY	MP	2,914	3,114	Repair Beaver Lodge ramp. Replace project equipment	100 100 200
PA 24	Woodcock Creek Lake, PA	FC	495	595	Recreation Facilities repairs	100

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
OPERATION AND MAINTENANCE
(Amount in Thousands)

Congres-sional District	Project & State	Type	Amount Included In President's Budget	Project Capability	Purpose of Additional Capability	
PA 12	Youghiogheny River Lake, PA	FC	1,233	1,401	Repair sluice.	168
	General Regulatory Functions	PN	4,113	4,518		
	(Pittsburgh)		(870)	(870)	No additional requirement.	
	(Huntington)		(1,074)	(1,074)	No additional requirement.	
	(Louisville)		(777)	(982)	Increased enforcement and surveillance; additional navigability studies.	205
	(Nashville)		1,392	1,592	Aerial photography contracts.	200
	Inspection of Completed Works	FC	465	565		
	(Pittsburgh)		(69)	(69)		
	(Huntington)		(107)	(107)		
	(Louisville)		(240)	(340)	Conduct stability analysis of floodwalls.	100
	(Nashville)		(49)	(49)		
	TOTAL		126,518	147,589		21,071

CI	Channel Improvement
FC	Flood Control
MP	Multiple Purpose
N	Navigation
PN	Protection of Navigation

OHIO RIVER DIVISION
FISCAL YEAR 1982 FUNDING CAPABILITIES
PLANNING PROJECTS
(Amounts in Thousands)

Congressional Districts	Project and State	Estimated Federal Cost	Amount Included in President's Budget	Project Capability	Purpose of Additional Capability
IN 9, 10	Downeyville Lake, IN	61,600.0	0 (P)	0 (P)	Lack of local cooperation.
KY 7	Kehoe Lake, KY	43,300.0	0 (P)	0 (P)	Lack of local cooperation.
IL 22	Louisville Lake, IL	101,000.0	150 (P)	150 (P)	No additional requirement.
OH 7, 12	Mill Creek Lake, OH	72,900.0	0 (P)	0 (P)	Recommended for deauthorization.
WV 4	Oceana, WV	5,110.0	0 (P)	0 (P)	Lack of local cooperation.
IL 22	Russell & Allison Levee, IL	15,800.0	0 (P)	150 (P)	Initiate planning.

Statement of Edward G. Dietz, Board of Trustees, Ohio Valley Improvement Association

My name is Edward G. Dietz and I am employed by Union Carbide Corporation, Old Ridgebury Road, Danbury, Connecticut 06817, as Manager of Barge Transportation. My office is in Charleston, West Virginia. On behalf of Union Carbide Corporation and the Ohio Valley Improvement Association, of which I am a member of the Board of Trustees, it is urgently recommended that the funds be authorized and appropriated for advanced engineering and design as well as construction of a modern locking facility at Gallipolis, Ohio. More specifically, we strongly endorse the Army Corps of Engineers proposal for twin locks in a bypass canal as the best alternative for the new Gallipolis Locks and Dam.

We have major production and distribution facilities at Institute and South Charleston, West Virginia on the Kanawha River. We also have a major chemical plant at Sistersville, West Virginia, a chemical and metals plant at Marietta, Ohio, and a container handling terminal at Leetsdale, Pennsylvania, all of which are located on the Ohio River. Products are also picked up by barge from vendor sites on the upper Ohio. Scheduling is critical on chemical movements from our plants in the upper Ohio and Kanawha Valley to the Chicago area. Each of these locations places major dependence on barges moving expeditiously through the Gallipolis Locks.

We have been a major shipper on the inland waterways since 1947 with steadily increasing tonnages of chemicals, ore, coal, and coke to and from our plants geographically situated upstream from the Gallipolis, Ohio facility. In 1977 we initiated containerized shipments of plastics, mentioned above, between Gulf Coast locations and Leetsdale, Pennsylvania near Pittsburgh. This movement is part of an entirely new plastics distribution system concept intended to supply selected customers in the midwest and the entire northeast. The river movement is one segment of an intermodal system which includes rail and truck modes.

The modernization of the locks and dams on the Ohio River has substantially contributed to the industrial development in the Upper Ohio Basin. The modern locking system benefits consumers in many other parts of the country because of low transportation costs which contribute to lower prices. Union Carbide Corporation has about 12,000 employees in the Upper Ohio basin. Gallipolis Locks and Dam are important to them since they are consumers who purchase goods and services affected by transportation costs.

We are already experiencing extensive delays at the existing facility. The forecasted increase in river transportation of coal, petroleum, and chemical products will create intolerable delays before the new structure can be completed, even if construction is started tomorrow.

Union Carbide Corporation therefore respectfully requests that there be no further delay in authorizing and appropriating the funds required to build a modern structure at Gallipolis which will enhance rather than impede growth in the upper Ohio Basin.

STATEMENT OF ROBERT L. GRAY, MANAGER, MARINE SERVICES, ASHLAND PETROLEUM CO.

Ashland Petroleum Company, a division of Ashland Oil, Inc., welcomes this opportunity to support the earliest possible replacement of the present locks structure.

Ashland has been barging petroleum products to and from our refineries for over 50 years, operating throughout the Inland Waterways of the United States. Since 1925 our refinery on the Big Sandy River, near Catlettsburg, Kentucky, has grown from 300 barrels/day to a capacity of 220,000 barrels/day.

Since 85-90% of the refinery's production is distributed by water, the replacement project for the Gallipolis Locks and Dam, just 37 miles upstream, is crucial to tows carrying energy products to industries in Ohio, West Virginia, and Pennsylvania. We move in excess of 4.5 million tons annually of petroleum products through the present structure to more than 26 terminals and industries located above Gallipolis Locks and Dam.

Ashland Coal, Inc., a subsidiary of Ashland Oil, Inc., is deeply committed to maximizing coal production in District No. 8, and the Gallipolis Locks will play an important part in future coal transportation plans. Today, Ashland Coal is passing 3 million tons/year of coal through Gallipolis Locks and expect to be placing on the Ohio River System by 1985 about 12 million tons annually of which half will require passage through the Gallipolis Locks. Other coal producers in the area are probably considering similar increases.

The present obsolete structure is a time-delaying barrier to the Upper Ohio Valley for distribution of petroleum, coal, and other vital commodities. Delays to prompt delivery of steel-making fuel, power plant turbine oil, fuels for highway and railroad transportation are escalating steadily. Of increasing importance is the restriction placed on export coal shipments to the Gulf Coast and the related impact on the Nation's balance of payments.

It became obvious in the late '60's barge traffic would eventually be blocked if traffic continued to approach the many projections developed. Studies were started then to plan for this eventuality but almost 20 years have passed without approval; and after congressional authorization and appropriations are secured, it will still require 10 more years for completion of this replacement structure.

Ashland urges the earliest construction start that can be initiated to minimize traffic delays and reduce future construction costs for this project.

Last summer, lock delays to all tows at Gallipolis were averaging from 6-24 hours per trip adding an additional cost of $2000-$8000 for each 7 day round trip to Pittsburgh. However, the 16 day maintenance outage in November and December of 1980 for gate repairs in the 600' lock created delays of 128 hours or over $40,000/tow/trip. During this period our Company had 3 tows waiting during most of this maintenance period - waiting to complete a normal lockage of 2 hours. There also were many other boats and hundreds of barges tied up at this same time.

The number of outages of the existing 600' lock chamber of Gallipolis will continue to increase due to age of the structure and to lock-gate damage created by the built-in navigation hazards encountered in both the upper and lower approaches to the lock. When the 600' chamber is out of service, normal double locking tows (approximately 1200' long) are required to break their tow 6 times to lock through the small chamber (360' x 110') adding 10-12 hours delay to each trip through the lock.

Attention has frequently been called to the unsafe maneuvering conditions when making high-water, downbound approaches into the lock. We wish to emphasize this again for the record. A downbound tow is required to make a turn to the left - just above the lock chamber - while entering the lock approach--exposing the stern of the boat and tow to a strong outdraft-current toward the dam and away from a safe approach. As a result of these conditions, there have been (4) serious accidents since November 1978, involving breakup of the barge tows, jeopardizing the continued operation of the locks and dam and the pool above the Dam.

For all the above reasons, Ashland strongly supports Plan B for approval, which consists of a 1200' lock and a 600' lock in a bypass canal, as described in the District Engineer's completed report.

Thank you for considering these comments. Our Nation deserves a first-class waterway. This bottleneck, located one-third (1/3) of the distance between Pittsburgh and the Lower Mississippi River and in between more efficient lock structures, must be replaced.

STATEMENT OF JOHN D. GEARY, PRESIDENT, MIDLAND ENTERPRISES, INC.

Dear Senator Hatfield:

Midland Enterprises Inc., headquartered in Cincinnati, is one of the nation's largest integrated barge transportation companies with ten subsidiary and affiliated companies operating, and employing almost 2,000 people, throughout the inland waterways of the United States. Much of our terminaling and transportation business is conducted on the Ohio River throughout the entire Ohio River valley and, as President of Midland, I am strongly opposed to any further delay in full authorization of the project replacing the Gallipolis Locks and Dam. This project is of crucial importance, not only for companies such as ours, but also for the utility companies and other industries throughout the nation which depend on efficient barge transportation for the majority of their bulk, fossil fuel needs. Many of these industries were built, and are being built, along the river system because of the availability of barge transportation. Their investments in plants and equipment would be underutilized if the Gallipolis project is not expedited. Also, the national goal of increasing the production of coal for export will be hindered by further delays in the Gallipolis project.

The existing locks at Gallipolis were built in 1937 when river traffic was less and tow sizes substantially smaller and are not equipped to handle current traffic demands and increased tow size. This has resulted in costly delays in barge traffic, with a waiting time of an average of approximately three hours to traverse the lock. With barge traffic on the Ohio River expected to increase at least 4.3% per year, these already unreasonable delays will increase accordingly.

Such delays are costly and are in addition to the costs passed through to consumers by industries which sustain higher energy costs and interrupted production schedules due to barge delays.

It is well known that barge transportation is the most efficient means of transporting bulk commodities. This efficiency is seriously impaired by failure to have a new structure built at Gallipolis. The effects of this inefficient use of waterway potential are felt throughout the entire inland waterway system and competing modes of transportation such as railroads and trucks do not have the additional capacity, nor the cost effectiveness, to replace barge transportation in the areas now served by barge. During the present economic climate, Congress should recognize the importance of the unimpeded flow of river commerce to the revitalization of our basic industries and to the efficient use of energy, especially now when our country is striving to reduce the costs of production and increase productivity. Barge transportation of energy related commodities is a necessary part of the nation's attempt to slow the rising cost of energy production and achieve economic growth. The present structure at Gallipolis serves to limit the potential for economic growth that could be realized by the construction of modern, 1200' locks.

With the construction of many new locks on the Ohio River over the past 25 years, the Gallipolis locks remain as the largest roadblock to realizing the full potential of the benefits derived from the increased and improved navigation capacity on the rest of the nation's rivers. To waste this potential is to waste the potential for increasing jobs and industrial production throughout our nation.

I stongly urge that positive action for the replacement of Gallipolis Locks and Dam be taken as soon as possible.

STATEMENT OF NICHOLAS ROOMY, VICE PRESIDENT, APPALACHIAN POWER CO.

Dear Chairman Hatfield:

We understand your subcommittee will be considering appropriations for water development projects on Monday, March 23, 1981. We would respectfully request an appropriation for the improvement of the Gallipolis Locks and Dam on the Ohio River, or at least an appropriation for advance design and construction studies for improvements of this facility in the current budget for Fiscal 1981.

We would urge the expeditious appropriation for the Gallipolis Locks, which we believe is in the interest of our country in helping to solve its energy needs and towards achieving energy independence. This vital facility to the Ohio and Mississippi waterway system is antiquated, deficient in handling present traffic, dangerous due to its position in the river, and is the only 600-foot lock between the Pennsylvania border and the Gulf of Mexico, which acts as a bottleneck to all commerce to and from the Upper Ohio River. For instance, here is how it affects the American Electric Power Company.

The AEP System operates in seven states; Ohio, West Virginia, Virginia, Kentucky, Tennessee, Indiana, and Michigan. AEP's eight operating companies serve more than 6 million people in over 3,000 communities, primarily located along the Ohio River and its tributaries. AEP is as coal-oriented as any utility in the nation, with over 87 percent of its 1980 generation using coal as a primary fuel source.

The AEP System is the largest coal user in the nation. In 1979, the system burn was approximately 38 million tons, and in 1980, the system burn was 40 million tons. With the acquisition of the Columbus and Southern Ohio Electric Company in 1980, we estimate AEP's 1981 approximate burn at 46 million tons. The AEP System currently has under construction two 1,300 MW generating units. These generating units will represent an additional annual coal requirement of from 3.5 to 5 million tons each. It is, therefore, important that we continue to find more efficient ways to mine, prepare and transport coal for use in the generation of electricity. A large amount of AEP's coal moves by barge. We estimate that in 1981, the AEP System will receive by barge approximately 15 million tons of coal. By 1986, an additional 7.5 to 8.5 million tons will be received by barge, making the total some 22.5 to 23.5 million tons annually.

The AEP System is a major user of the Gallipolis Locks. We anticipate that approximately 5 million tons of AEP coal will move through the Gallipolis Locks during 1981. These estimates of projected coal movements are subject to some variation, depending upon several factors, including governmental decisions with respect to air quality regulations. Such factors which are not within the control of the electric industry could result in a change of the type of coal to be used at a particular plant. Of course, as the type of coal changes, the origin of that coal also changes.

Since the Gallipolis Locks were constructed in 1937, the volume of barge traffic has significantly increased. Most current forecasts point to severe congestion at Gallipolis in the very near future. Such congestion causes delays in transporting coal, and these delays, in turn, increase the delivered cost of coal. As a consequence, our customers will pay more for electricity. As a major user of the Gallipolis Locks, we are thus adversely affected by increased delays in transporting coal through the locks.

Of even greater importance than the increased cost is the possibility that the Gallipolis bottleneck, by delaying the movement of many tons of coal, will adversely affect the adequacy and reliability of the power supply of the Ohio Valley region. As you know, the 600-foot Gallipolis Lock was closed for repairs from November 14, 1980 through December 5, 1980. On the morning of December 1, the AEP System had six towboats with some 90 coal barges awaiting passage through the Gallipolis Locks at a time when posted delays were in the realm of 116 hours per tow. Not only does the operation of the Gallipolis Locks affect our region, its influence is much greater in that the nation's vast reserves of coal will become of increasing value as our country and other countries of the world turn to coal in solving the world's energy problems. Most assuredly, coal will be needed to replace the shortages and expense of the world's decreasing supply of oil.

Mr. Chairman, we would like to call your attention to the attached copy of an industrial facilities map, which illustrates the location of the Gallipolis Locks relative to the vast industrial plants of our region. This map is somewhat out of date; but, nevertheless, it depicts many of the commercial and industrial plants of the Ohio River region which depend upon river transportation not only for commerce, but to move vital commodities such as coal, chemicals, petroleum and steel. These plants employ our people whose welfare is dependent upon their continued and profitable operation. The Gallipolis Locks remain the only lockage facility with a 600-foot limitation between Montgomery Island, Pennsylvania and New Orleans, virtually a bottleneck. This limitation is presently and will continue to be by increasing proportions a deterrent to the vital transportation needs of our region and the country.

While we support the principle that each public dollar should be spent in a manner that will produce as much benefit as possible, we think it is past time for construction to begin to improve the Gallipolis Locks.

We respectfully urge expeditious appropriations to bring about improvements to the Gallipolis Locks so vital to our nation's transportation system.

STATEMENT OF MARVIN J. BARLOON, CONSULTING ECONOMIST TO THE OHIO VALLEY IMPROVEMENT ASSOCIATION, INC.

Mr. Chairman and Members of the Subcommittee:

My name is Marvin J. Barloon. I am Carlton Professor of Economics, Emeritus, at Case Western Reserve University in Cleveland, Ohio, where for many years I have been in charge of research and instruction in the economics of transportation. I am also the consulting economist to the Ohio Valley Improvement Association, headquartered in Cincinnati, Ohio.

Mr. William J. Hull, Chairman of the Legislative Committee of the Association has presented you with a statement in support of various water resource development projects in the Ohio River Basin for the fiscal year, 1982. The officers of the Association have asked me to supplement Mr. Hull's statement with important information and considerations bearing on the project for modernization of the existing locks-and-dam works on the Ohio River at Gallipolis, Ohio.

As Mr. Hull's statement points out, the existing works at Gallipolis, completed in 1937, are becoming an ever more serious bottleneck in the sole waterway connection between the Upper Ohio Basin and the entire continental interior and southern regions of the United States. The Upper Ohio Basin consists of all of western Pennsylvania, including the Pittsburgh Metropolitan Area, most of the State of West Virginia, and eastern Ohio. The long-established industries of this populous area, over generations of time, have been structured on a base of waterway transportation. Mounting congestion at Gallipolis is exerting a growing and depressive influence on productivity, competitive position, employment, and incomes throughout the region.

The Economic Cost of One-Year or Two-Year Deferral

It is of the highest urgency that there be no avoidable delay in progress towards relief of this problem. The deteriorated condition of the existing locks requires that they be closed to traffic for repair with increasing frequency. Even when fully operable, congestion costs are high and rising. In 1979, with traffic at about 40 million tons, the average vessel transit was delayed for over eight hours by congestion. At a cost to carrier operations and carrier-dependent industries, reported by industry sources at about $350 per hour, this represented a waste to the region and to the national economy of $2,800 for each transit.

Postponement of work at Gallipolis for a single year will save the Government nothing, but will incur a cost to the national economy which I estimate to be in the neighborhood of $132.5 million. Year by year, the congestion delays are lengthening. Because of the long lead time for design and construction, the projected modernization cannot possibly be operative before late 1989. Thus, under highly optimistic assumptions, the first full year of service would be 1990. The projected traffic demand at Gallipolis in 1990 falls in the range of 64.5 million to 70.9 million tons. These are highly reliable projections. They were prepared by three professional consulting firms under contract with the Army Corps of Engineers, each independently of the others and on a different statistical base of trend development. On the basis of experience at Locks No. 26 on the Mississippi River and at other points of congestion on the inland rivers, it is anticipated that, with a traffic demand of 64.5 million tons and in the absence of relief, the average delay in the year 1990 for the 11,376 transits projected for that year would be about 33.3 hours. At $350 per hour, the total cost to the region and the national economy would thus be in the neighborhood of $132.5 million. A two-year delay would more than double this, representing a total cost approximating $267.4 million, more than the entire cost of the project and a total waste to the economy. These estimates are in 1979 dollars.

In its bearing on the distinctive economic problems of the industrial Midwest and the Appalachian Region, and in view of the persistent difficulties of the region's industries in contending with foreign competition and with a trend of industrial migration towards the Sunbelt states, a delay of one or two years in moving the Gallipolis project forward would be especially depressive.

Coal Exports Via Gallipolis

A new note of optimism for the Upper Ohio Basin and for the national economy has been struck in 1980 by the outlook for massive exports of coal during the 1980's and 1990's. The share of the Upper Ohio Basin in this prospect rests almost exclusively on its waterway connection with the Gulf Coast. Such expectation, however, can be fulfilled only by the provision of adequate capacity at Gallipolis.

The buoyant outlook for coal exports via the Gulf Coast is clearly signaled by terminal developments in the New Orleans area. Recently constructed coal export capacity at New Orleans has already reached 12.5 million tons per year. By 1985, additional capacity now planned and under design will bring the total to 58 million tons. Much of this projected expansion is supported by existing capital commitments and land acquisition.

Clearly, a large portion of this export coal will originate in the Great Plains states, notably in Wyoming and Montana, as well as in southern Illinois and the lower and central Ohio Basin. Without adequate capacity at Gallipolis, however, Upper Ohio Basin coal simply cannot be competitive in this movement. There is no realistic prospect that all-rail rates from the Pittsurgh region to the Gulf could move any significant export tonnage. But, with adequate capacity, the Upper Ohio Basin coal would become fully competitive.

Existing Southwesterly Coal Movement. The strength of Upper Ohio Basin coal in competition with the lower basin and other mid-continent origins is clearly demonstrated by present circumstances. In the latest year reported (1978), about 4.8 million tons of Upper Ohio Basin coal were carried via the existing Gallipolis locks into Lower Ohio Basin, Mississippi Valley, and Gulf Coast domestic markets. With adequate capacity, this tonnage could be greatly expanded for export participation.

Competitive Cost of Upper Basin Coal. The competitive strength of Upper Ohio Basin coal rests on its lower price at the mine in comparison with mid-continent coal. Export demand on mid-continent coal will tend to heighten this differential. In 1978, in three lower basin counties near the mouth of the Green River in western Kentucky, the average mine price was $22.64 per ton. In the three principal producing riverside counties in Ohio above the Gallipolis site, the average was only $18.01, a differential of $4.63.

This differential approximates the cost of waterborne carriage between the Upper and Lower Ohio Valley districts. The cost of barging coal on the Ohio River in 1978 fell in the range of 6.0 to 6.5 mills per ton-mile. For the 720 river miles from Steubenville, Ohio (above Gallipolis), to the mouth of the Green River in the lower valley, this represents a barging cost in the range of $4.32 to $4.68 per ton, clearly bracketing the $4.63 mine price differential.

Sufficiency of Reserves. Coal reserves in the Upper Ohio Basin above Gallipolis are abundant. Under contract with the Army Corps of Engineers, the consulting firm of Robert R. Nathan Associates analyzed studies of the U. S. Department of the Interior and reports that coal reserves of the Basin upstream from Gallipolis either at riverside or with economic access to the river amounted in 1980 to 82.7 billion tons. Most of the coal preduced in the United States is mined in the Ohio River Basin, and the 82.7 billion tons so reported above Gallipolis constitutes 59.7 percent of the Basin's reserves.

As a measure of sufficiency to meet export demand, these reserves may be compared with the projected downbound coal movements via Gallipolis. The CONSAD Research Corporation of Pittsburgh, under contract with the Corps, projected the downbound movement of coal at Gallipolis in 1990 at 10.9 million tons. CONSAD, however, did not take into account the export potential--a factor which was not evident at the time. If exports were to triple this to 32.7 million tons of downbound coal, the Upper Ohio Basin reserves above Gallipolis with economic access to the river would be sufficient to last for over 2,500 years.

Thus, on the counts of both competitive strength and sufficiency, the outlook for the export of coal from the Upper Ohio Basin is highly favorable. All depends, however, on adequate capacity at Gallipolis.

Bearing on the Federal Budget, 1982 through 1984

Your committee is presumably deeply concerned at the present time with the necessity for budgetary restraint in fiscal 1982 and the immediately succeeding years. Please note that the recommendation of the Ohio Valley Improvement Association for prompt funding at Gallipolis does not bear significantly on this concern. With completion of the Phase I studies through the design memorandum stage in late 1980, the fiscal 1982 and 1983 task to be funded will be the uninterrupted progress of advanced engineering and design work. For fiscal 1982, the Association estimates the required appropriation at about $2.0 million. For 1982, the Corps of Engineers estimates the amount at $2.4 million. Indeed, the Corps' presently estimated outlay at Gallipolis for fiscal 1984 is limited to $3.6 million, so that the initial significant impact on the Federal budget will occur at the earliest in 1985.

Bearing on the Federal Budget, 1985 and Subsequently

Presumably also, your committee is concerned with the need to curtail the growth in Federal expensitures over the long term. The recommendation of the Ohio Valley Improvement Association for expeditious progress at Gallipolis does not call for any exception to this policy. Even if and when construction gets under way at the full capability of the Corps in 1985 and continues thereafter, the Association's recommendation will represent a substantial reduction in Federal expenditures on new construction on the main stream of the Ohio River in comparison with the Federal outlays of previous years.

Exhibit A, attached, presents the record of Federal expenditures on new work on the Ohio River from 1970 through 1980, inclusive, and also the projected expenditures from 1981 through 1993. Apart from the Gallipolis project, there is no other major construction project programmed on the Ohio during the 1980's. The only additional outlays will be for limited work on projects already in service and rehabilitation work.

As shown in Exhibit A, during the five years from 1972 through 1976, new work expenditures on the Ohio River exceeded $75 million annually and in one year reached $80 million. The yearly average for the decade, 1970-1979, was $59.6 million. By contrast, the programmed outlays for the decade, 1980-1989, consisting of the Gallipolis project and major rehabilitation work, will average only $31.7 million per year.

This decline is even more striking when it is noted that the outlays for the period of the 1970's are in dollars of the purchasing power of the respective years, whereas those for the 1980's are in 1979 dollars reflecting the full impact of the inflation up to that year. If the data of Exhibit A were to be restated in dollars of constant purchasing power, the decline from the 1970's to the 1980's would be much sharper. Please bear in mind that this decline is based on the assumption of construction progress at Gallipolis at the full capability of the Army Corps of Engineers.

Thus, full funding at Gallipolis will have little significant impact on the Federal budget until construction gets substantially under way, at the earliest in 1985, and, for the entire decade of the 1980's, even with the Gallipolis project proceeding at the full capability of the Corps, Federal expenditures on new work on the Ohio River will be substantially smaller than they have been during the years preceding 1980. Expeditious progress at Gallipolis, therefore, as a feature of the Ohio River program, will be in full conformity with a Federal policy looking towards restrained expenditures and a balanced budget.

Critical Role of Gallipolis in the Ohio River Modernization Program

The existing Gallipolis structure is the sole bottleneck now obstructing traffic on the Ohio River and depriving the economy of the full benefits of the river's modernized navigation system. The improvement project is an integral component of the Ohio River modernization program begun in 1954. Since that year, sixteen new lockage structures of capacity and dimensions suitable to modern navigation practice and traffic demand have been constructed on the Ohio. Gallipolis and three additional structures on the upper river near Pittsburgh remain as the only lockage installations on the Ohio River of antiquated dimensions.[1] However, because the tonnages transited via Gallipolis include those serving the Kanawha River Valley as well as those serving the Upper Ohio, traffic demand at the three upstream facilities is at a much lower level than at Gallipolis, and, assuming suitable rehabilitation work, there is no significant prospect of prolonged traffic congestion at any of the three for at least another decade. In fact, demand at the upstream sites is projected for the year, 2000, at about the same level as that pressing upon the Gallipolis locks in 1979. Thus, at least through the 1980's, the present Gallipolis locks will be the sole remaining barrier to the efficient movement of waterborne commerce between the Pittsburgh area and the entire continental interior and the Gulf Coast.

Most of the traffic transiting the Gallipolis locks transits lockage structures upstream and downstream as well, and a very large portion moves the entire distance between the Pittsburgh area and the mouth of the Ohio, in fact, extending to origins and destinations throughout the Mississippi Valley and on the Gulf Coast. Thus, pending completion of additional capacity, mounting congestion at Gallipolis will constitute a penalty on long-haul traffic and a deterrent to full beneficial utilization of every lockage structure on the Ohio River.

Since 1954, the Federal Government has invested over $1.3 billion in new locks and dams on the Ohio River. From Montgomery Island, Pennsylvania, to the mouth of the Ohio, 95.6 percent of the mileage is now a modernized waterway system. The remaining 4.4 percent alone, which constitutes the Gallipolis pool, prevents the American economy from reaping the full benefits of the $1.3 billion Federal investment.

Modernization as an Alternative to Rehabilitation

Finally, it is important to note the actual amount of Federal appropriations at issue in the Gallipolis project. The over-all period extends from 1982 through completion to operational status during 1989,and thereafter to include rehabilitation work continuing through 1993. For this 12-year period, the professional estimates of the Army Corps of Engineers represent a prospective expenditure of $258.2 million on the Gallipolis project under Plan B, stated in 1979 dollars.

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[1] The three upstream facilities are the Emsworth, Dashields, and Montgomery Island lock-and-dam structures.

The amount at issue, however, is much smaller than this $258.2 million. The old locks and dam now in service are becoming progressively more deteriorated. Even at the present time, lock closures for major repairs are becoming increasingly frequent. Thus, the real alternative facing the Congress is not that of the proposed improvement as opposed to total inaction, but, rather, the proposed improvement as opposed to major rehabilitation work at Gallipolis. The Corps estimates that, in the absence of any improvement or expansion of capacity, rehabilitation work merely to keep the present locks and dam operative in their present dimensions would require a Federal outlay of $87.0 million.

Thus, the issue facing the Congress is a choice between an expenditure of $258.2 million over the next 12 years for modernization of the Gallipolis installation as opposed to the alternative expenditure of $87.0 million merely to keep the present works in operative condition. The difference between these two figures of $171.2 million is thus the actual 12-year differential expenditure at issue in the recommendation of the Ohio Valley Improvement Association.

EXHIBIT A.

THE OHIO RIVER

FEDERAL EXPENDITURES FOR CONSTRUCTION AND REHABILITATION OF LOCKS AND DAMS

Fiscal Year	Actual (000)	Projected (000)
1970	$ 44,420	
1971	46,526	
1972	79,681	
1973	78,275	
1974	80,204	
1975	77,860	
1976	79,855	
1977	47,693	
1978	35,242	
1979	25,885	
1980		$ 17,107*
1981		20,928
1982		27,391
1983		22,352
1984		23,585
1985		42,123
1986		53,479
1987		52,385
1988		43,874
1989		13,936
1990		14,079
1991		12,752
1992		11,694
1993		741

*Data for 1980 and subsequent years are in 1979 dollars.

SOURCES:

U. S. Department of the Army, Office of the Chief of Engineers, *Annual Report on Civil Works Activities of the Chief of Engineers*, Volume II, Washington, D. C., Respective Years.

U. S. Department of the Army, Corps of Engineers, Huntington (West Virginia) District, *Gallipolis Locks and Dam Replacement, Ohio River*, Phase 1, Advanced Engineering and Design Study, General Design Memodandum, Appendix O, Huntington, West Virginia, 1980.

NOTE: Expenditures for 1983 and 1984 include rehabilitation work at an estimated $20 million per year.

STATEMENT OF DUANE SUDWEEKS, ADMINISTRATOR, NEVADA STATE DIVISION OF COLORADO RIVER RESOURCES

ACCOMPANIED BY DONALD L. PAFF, GENERAL MANAGER, LAS VEGAS VALLEY WATER DISTRICT

Senator BURDICK. The next set of witnesses will be Mr. Duane Sudweeks, administrator, Nevada State Division of Colorado River Resources. You may proceed.

Mr. SUDWEEKS. Thank you.

As you mentioned, my name is Duane Sudweeks. I am the administrator of the Division of Colorado River Resources. This is an agency of the State of Nevada.

Accompanying me in support of this testimony is Donald Paff, who is manager of the Las Vegas Valley Water District.

The purpose of our being here is to present testimony in support of appropriations for fiscal year 1982 in the amount of $8,140,000 for continued construction of the second stage of the southern Nevada water project as authorized under Public Law 89-292.

I should note that the agency that Mr. Paff represents presently receives and will continue to receive, after completion of the second stage, approximately 80 percent of the water made available from this project.

I have previously provided the committee not only my written statement, but also that of the Honorable Robert List, Governor of the State of Nevada. Governor List expressed regret that he was unable to appear personally.

I would request that our written testimony be included as part of the record of this hearing.

Governor List stressed the necessity to continue with construction of the second stage of the southern Nevada water project. He pointed out that the first stage of the project will shortly be inadequate to meet the future water requirements of our expanding population.

PROJECT STATUS

Construction of this project is well underway. Contracts in the total amount of $91,024,529 have been issued to date. It is anticipated that in the 1982 fiscal year approximately $2 million in additional construction contracts will be issued by Water Environment Resources Services.

The proposed $8,140,000 budgeted for fiscal year 1982 would be applied for payments of these contractual obligations.

It is critical the entire water system, including the federally funded additional pipelines as well as the State-funded expansion of the water treatment facilities, be continued as expeditiously as possible. Therefore, Governor List, as well as myself, urges that your committee support this appropriation in the amount of $8,140,000 for fiscal year 1982. We wish to thank you for your time and consideration of this extremely important matter.

Senator BURDICK. Thank you very much.

I understand this amount of $8,140,000 is budgeted.

Mr. SUDWEEKS. That is correct. It is in the executive budget.

Senator BURDICK. For the 1982 budget?

Mr. SUDWEEKS. Yes.

Senator BURDICK. Thank you very much.

[The statement follows:]

STATEMENT OF ROBERT LIST, GOVERNOR OF NEVADA

Mr. Chairman, Members of the Committee, I am pleased to see that the water development requirements of the residents of Southern Nevada are receiving favorable consideration by your Committee, and that positive action is being taken by the Federal Water and Power Resources Service of the Department of Interior, the State Division of Colorado River Resources and the local water-using agencies. The careful development, management and wise use of our water resources in the State of Nevada is critical to the well being of the citizens of our state.

The appropriation of the funds necessary to continue construction of the Second Stage of the Southern Nevada Water Project is vitally important to Nevada. Your support of funding authorized by Public Law 89-292 will allow the State to meet the municipal and industrial water requirements of Southern Nevada and avoid adverse social, economic and environmental impacts.

The First Stage of the Project is currently serving the needs of the people in the Las Vegas Valley and Boulder City. However, the Second Stage of the Project will be needed to support future water requirements of the expanding population in that area. It is essential that we meet the December 1981 deadline to have the Second Stage of the Southern Nevada Water Project operational.

Construction is underway, and contracts in the total amount of $91,024,529 have been issued to date. It is anticipated that early in the 1982 Fiscal Year approximately $2.0 million in additional construction contracts will be issued by the Water and Power Resources Service. The proposed $8,140,000 budgeted for Fiscal Year 1982 would be applied toward payment of these contractual obligations. All funds appropriated for the Second Stage of the Southern Nevada Water Project under Public Law 89-292 are reimbursed with interest to the Federal Government. In this regard, I wish to point out that the State of Nevada, through the Division of Colorado River Resources, has made all repayments for First Stage facilities as scheduled. The First Stage facilities are in a sound financial and operational condition. The additional obligations for the Second Stage will be treated in a like manner.

The State of Nevada is actively sharing in the cost of the water resource development project. The State has completed the design and is well into the construction phase of the enlargement of the First Stage of the Alfred Merritt Smith Water Treatment Facility. Sixty million dollars of State General Obligation Bonds have been sold for this purpose to provide necessary facilities for a complete municipal and industrial water supply system.

The decision to make water available to the people of Southern Nevada was confirmed by the passage of Public Law 89-292 in October of 1965. As a result of this action, appropriations were made which allowed the First Stage of the Project to be completed in 1971, supplying 132,200 acre feet of water per year allotted to the State of Nevada from the Colorado River. It was then anticipated that this water supply system would be sufficient until approximately 1990. However, our population growth and the rapid expansion of the area produced a larger demand for water, thus the necessity for the Second and final stage of the Project authorized under Public Law 89-292.

It is critical that the entire water system including Federally-funded pipeline additions and pumping plants and the State-funded expansion of the water treatment facilities be completed as quickly as possible. All construction is coordinated between the Federal, State and local water users. I believe that each portion of the system required to deliver water to the people must progress on schedule in order to ensure efficient and effective use of Federal, State and local funds. Any reduction in funding that could delay construction will result in additional costs to the people of Southern Nevada, as well as jeopardizing adequate water supplies.

It is for these reasons that Fiscal Year 1982 appropriations in the minimum amount of $8,140,000 are being requested. I respectfully urge that your Committee support this appropriation for Fiscal Year 1982. I believe it is clearly a matter of record that the Project fully meets or exceeds all the criteria of a wise and prudent water resource development, including the tests of safety, environmental considerations and cost effectiveness.

Your continued support of this vital municipal and industrial water supply project is appreciated.

STATEMENT OF DUANE R. SUDWEEKS, ADMINISTRATOR, NEVADA DIVISION OF COLORADO RIVER RESOURCES

Mr. Chairman, my name is Duane R. Sudweeks. I am the Administrator of the Nevada Division of Colorado River Resources, an agency of the State of Nevada. I appreciate this opportunity to present a statement supporting proposed appropriations for the Southern Nevada Water Project, authorized by Public Law 89-292, in the amount of $8,140,000.

In implementing the Southern Nevada Water Project Act, the facilities were staged to economically and prudently develop the required municipal and industrial water supply to the Southern Nevada area. The First Stage was completed and placed into operation in 1971, with a maximum annual delivery capacity of 132,200 acre feet. The First Stage has provided an additional source of water from Nevada's allocation from the Colorado River to the communities served by the Las Vegas Valley Water District, the cities of North Las Vegas, Henderson and Boulder City, and Nellis Air Force Base. It also provided a means by which the overdrafting of the limited groundwater supply and its attendant adverse environmental impacts have been mitigated.

It was anticipated that the First Stage would provide an additional supply of treated Colorado River water for the metropolitan Southern Nevada area to about the year 1990. Both the population increase and attendant water requirements, and the continuing need for groundwater pumping management have required the Second and final stage of the Project to be operational in the early 1980's. Construction of the Second Stage, to double the capacity of water deliveries and allow an additional 166,800 acre feet per year of Colorado River water to be delivered, has already commenced and the appropriation for Fiscal Year 1982 would allow construction to continue on schedule in order that substantial completion could occur prior to the end of the 1981 calendar year.

Both the First and Second Stages of the Project and the needed water treatment facility have been a joint Federal, State and local effort. Federal appropriations, along with State funding authorized by the Nevada Legislature, and the investment of local funds for the receipt and distribution of the water from the Project are all necessary paralleling and on-going activities.

Under the authority granted by the Nevada Legislature, the Nevada Division of Colorado River Resources has sold $60,000,000 worth of State General Obligation Bonds to finance the costs of the enlargement of the treatment facility to match the Second Stage of the Project. In addition, approximately $30 to $40-million of local funds are being expended by the water receiving entities in preparation of receipt of Second Stage water deliveries.

Each and every part of the Southern Nevada Water System has been coordinated and integrated to provide potable water deliveries to current and future residential, commercial and industrial consumers. No water from the Project is utilized for agricultural irrigation purposes.

The Water and Power Resources Service, the State of Nevada, and local projections of water needs support and verify the need for the substantial completion of the Second Stage of the Southern Nevada Water Project prior to the end of this calendar year. Without such availability of water, the Southern Nevada area could be substantially damaged, both economically and environmentally. Delay in completion would preclude the full utilization of the investment in the First Stage wherein facilities were constructed to accommodate Second Stage capabilities.

It is our understanding that the Water and Power Resources Service has indicated that they have the capability of effectively and efficiently using $8,140,000 in Fiscal Year 1982. I urge the Subcommittee to support this Fiscal Year 1982 appropriation for continued construction activities.

Mr. Chairman, it has been my pleasure to present this statement to the Subcommittee and I appreciate the opportunity to request your favorable consideration.

81-1 RESOLUTION

STATE OF NEVADA

COLORADO RIVER ADVISORY COMMISSION

WHEREAS, the total Southern Nevada Water Project was authorized in 1965 by Public Law 89-292 to help meet the water needs of the area and to reduce the demands on an already overdrawn groundwater basin; and

WHEREAS, the First Stage of the Southern Nevada Water Project was completed in 1971 and currently delivers municipal water to the population center in Southern Nevada including Nellis Air Force Base, the City of Henderson, the City of North Las Vegas, the City of Boulder City and the Las Vegas Valley Water District; and

WHEREAS, the projections clearly indicate that an additional potable water supply will be required before the end of the 1981 calendar year to meet the growing water needs of the Southern Nevada area which can only be accomplished with the already authorized Second Stage of the Southern Nevada Water Project; and

WHEREAS, the State of Nevada is cost sharing in this project by designing and constructing the State-owned water treatment plant which is an intregal part of the total system and will operate in conjunction with the Second Stage of the Southern Nevada Water Project; and

WHEREAS, all Second Stage Federal funding will be repaid with interest; and

WHEREAS, funding has been provided in the Executive Budget in the amount of $8,140,000 for continued construction of the Southern Nevada Water Project for Fiscal Year 1982;

NOW, THEREFORE, BE IT RESOLVED, that the Colorado River Advisory Commission urges Congress to appropriate the Fiscal Year 1982 Executive Budget recommendation of $8,140,000 to maintain the necessary construction schedule to meet a substantial project completion date before the end of the 1981 calendar year for the Second Stage of the Southern Nevada Water Project; and

BE IT FURTHER RESOLVED, that copies of this Resolution be sent to Senator Howard W. Cannon, Senator Paul Laxalt, Congressman James D. Santini, Senator Mark O. Hatfield, Chairman of the Energy and Water Development Subcommittee of the Senate Appropriations Committee; Congressman Tom Bevill, Chairman of the Energy and Water Development Subcommittee of the House Appropriations Committee; Governor Robert List; Secretary of Interior James G. Watt and the Commissioner of Water and Power Resources.

Unanimously adopted at a regular meeting of the Colorado River Advisory Commission on March 12, 1981.

Jack Lehman

Jack Lehman, Chairman
Colorado River Advisory Commission

3-12-81
Date

Senator BURDICK. Our next witness will be Mr. Peter Hovingh, member, board of directors, Citizens for a Responsible Central Utah Project. Is he here? [No response.]

If not, is Mr. Lew Matis, cochairman, San Juan Audubon Society, Conservation Committee and Group?

Would you introduce the panel and proceed as you wish?

OPPOSITION—ANIMAS-LA PLATA PROJECT, COLORADO

STATEMENT OF LEW MATIS, CO-CHAIRMAN, SAN JUAN AUDUBON SOCIETY, CONSERVATION COMMITTEE

ACCOMPANIED BY:

- JEANNE ENGLERT, TAXPAYERS FOR THE ANIMAS-LA PLATA REFERENDUM
- JEAN McCULLOCH, TAXPAYERS FOR THE ANIMAS-LA PLATA REFERENDUM
- PRESTON ELLSWORTH, BUSINESSMAN, DURANGO, COLO.

INTRODUCTION OF ASSOCIATES

Mr. MATIS. Thank you. My name is Lew Matis. I am from Durango, Colo. I represent the San Juan Chapter of the Audubon Society. On my left is Jean McCulloch and Jeanne Englert of Durango. On my left is Mr. Preston Ellsworth.

We will each make a brief statement about the project and then we will open it for questions.

Senator BURDICK. If you feel more comfortable, you may sit down.

Mr. MATIS. Thank you.

First will be Ms. Englert.

Ms. ENGLERT. The Animas-La Plata water project is a $478 million water project in southwestern Colorado. I find that since we are inalterably cost-conscious these days——

Senator BURDICK. Will you bring that mike up a little closer?

Ms. ENGLERT. I thought that since you are inalterably cost-conscious these days, that I would talk to you a little bit about the rising cost of the project, but first I just wanted to point out that the Animas-LaPlata project is a focus of substantial controversy.

LOCAL OPPOSITION

Over 700 property owners in the area signed a petition to oppose formation of the water conservancy district. That district has been formed. It means only that the judge interpreted an obscure technical part of the Colorado law in favor of the proponents. In other words, nothing has changed since we were here last year, except that the water conservancy district has been formed.

In the meantime, the cost of the Animas-LaPlata has risen from $405 million to $478 million, an almost 20-percent increase from last year.

There are some other costs connected with this project which have not been mentioned and do not appear in the environmental impact statement or the definite plan report, because of certain Government regulations. However, they remain costs to us, the project beneficiaries, if you will.

I would like to point out just a few of these. One is that the city of Durango, in order to utilize its project water, will have to build a second water treatment plant. This is in addition to the project which does not appear in that $478 million price tag.

Part of the problem is that this water treatment plant may have to accommodate advanced treatment, because the water quality of the Animas River is very poor. Upstream from it are a great many old silver mines that was once a boom town in terms of gold and silver. This has polluted the river and these heavy metals will have to be removed.

The river is also contaminated with radioactivity. The power that will be used to pump the water 900 feet over into the irrigation area will have to be diverted from its present use, which is Colorado River storage water, and that power will have to be replaced. A University of Colorado economist estimated the replacement cost will be $5 million a year.

Federal wholesale power rates have recently been raised 20 percent in order to accommodate the increased irrigation subsidies in this project. This means that power consumers subsidize the project in two ways—as Federal taxpayers and as power consumers.

We also have the problem with the project as to other upper basin projects which increase the salinity. These costs and the salinity projects that are being built to remove this material from the river are cost to the U.S. taxpayers, although they are not reflected in the project.

I thank you very much.

If you have any questions, I will be pleased to respond.

[The statement follows:]

STATEMENT OF JEANNE W. ENGLERT, DURANGO, COLO.

Mr. Chairman and Members of the Subcommittee:

The Animas-La Plata water project is a $478-million, multipurpose project in southwestern Colorado which is designed to provide municipal, irrigation and industrial water for four New Mexico and Colorado communities, three Indian tribes and area farmers. The project was authorized in 1968 as a participating project in the Colorado River Storage Project system. However, the project that was authorized in 1968 is not the same project which exists today. What was once a gravity-flow diversion and high-mountain reservoir system has become an energy-consumptive project, which will consume over 165,000 megawatts of electricity per year.

The present project is also a great deal more expensive than the project which was authorized in 1968. In 1979 the Animas-La Plata cost $336 million. In 1980 it cost $405 million. Its 1981 project cost is now $478 million. The cost of providing irrigation water to the high-altitude farms in the project area is nearing one million dollars per farm.

On the average, only 30% of water project costs are repaid by beneficiaries, with only 19% for irrigation. In this project only 15% of the cost of irrigation water will be repayed and as project costs rise, this subsidy will also increase. While irrigated agriculture produces higher incomes and employment per acre, it does not produce very high income or employment per acre-foot of water consumed. The construction period for large projects, such as the Animas-La Plata, produces higher incomes but also causes high infrastructure and social costs for the project area.

Many of these costs are not included in the official "price-tag" for the project, but are additional costs which will have to be paid, not by the so-called beneficiaries of the project, but by others.

If these costs were to be included in the benefit-cost analysis, the Animas-La Plata project would not even reach unity. Below are some notable examples of the hidden costs of the Animas-La Plata water project.

- The City of Durango, in order to utilize its project water, will have to build a second water treatment plant. Because of the poor water quality of the Animas River, the plant may have to provide advanced water treatment, another additional cost. The project pumps are located on a radioactive tailings pond, a health hazard.

- Power that is diverted to run the project pumps will have to be replaced by thermal-generated power elsewhere. This cost, according to a University of Colorado economist, will be an additional $5 million annually.

- Federal wholesale power rates have recently increased by 21.5% in order to include the increased costs of the project's irrigation subsidy. Power consumers, consequently, must subsidize this project in two ways: as federal taxpayers and as power users. In addition, a 345-kilovolt power line is being planned at a cost of nearly $200 million. A line of this size and scope would not have to be built if there were no Animas-La Plata project.

- The site of the major project reservoir is also an ideal location for removal of Durango's radioactive tailings pile. The site is close enough to the pile to allow for removal of the tailings by conveyor, a considerable cost savings to both federal and state governments. All other sites under consideration will require hauling the tailings by truck. If Animas-La Plata project objectives were met by alternative means, this site would then become available for tailings disposal.

Mr. Chairman and Members of the Committee, if your objective, as members of Congress, is to increase the agricultural supply, you don't do that at an altitude of 7,000 feet.

If your objective is to increase the supply side economically, you don't invest in those industries which return five percent or less on that investment.

If your objective is to reduce federal spending, you don't build a project which will contribute to inflation.

If your objective is to reduce energy consumption, then you don't build a project which is energy consumptive.

You don't build the Animas-La Plata water project.

Mr. MATIS. Ms. McCulloch.

Ms. MCCULLOCH. My name is Jean McCulloch and I represent the organization called Taxpayers for the Animas-LaPlata Referendum.

I want to make one very brief point here. All the pumping in this project is solely for the purpose of getting this water out to the dry side of the county to a handful of farmers.

To emphasize that point, I have brought the telephone page from that area to show you how many farmers are in that area.

Thank you, Mr. Chairman.

Mr. MATIS. Senator, the reason why we are here is to ask that you not appropriate any money for this project this year. Proponents of the project are asking for $2.87 million as construction start money. No work has begun on this project as yet. We feel that the design of this project is much too complex; it is too large a scale to accomplish the goals and objectives that the project has. The cost of the project continues to inflate at an alarming rate. In the past year with the inflation rate of 18 percent, the price of the project went up $72 million. It has a projected construction period of 10 years.

If the inflation rate on this project continues at 18 percent, in less than 5 years the cost of the project will double and it will cost yearly a billion dollars. For the amount of benefits that will accrue from this project and considering that cost, it is an unwise investment for the Congress of the United States to make. A commitment of only $2.87 million at this time may not seem like much of a commitment, but over the next 10 years it is, in reality, a commitment of at least $500 million and possibly a billion. That is why we are here asking that you not appropriate money at this time. There are alternatives to the project that could be built at much less cost and the beneficiaries of those projects or those portions of the projects will be the ones that will be responsible for repaying it with only a small portion of it being subsidized by the Federal Government.

PROJECT PURPOSES

Let me examine the five objectives of the project. One objective is to provide municipal water storage to the city of Durango, Colo. A second objective is to provide an apportioned amount of municipal water to the New Mexico communities of Aztec, Bloomfield, and Farmington. A third objective is to provide industrial water to the Southern Ute Indian Tribe for the amount of coal resources that lie on their land.

The fourth objective is to provide supplemental irrigation water to lands in New Mexico that are presently irrigated, and a fifth objective is to provide new and supplemental irrigation water to lands in Colorado for agricultural purposes and also to provide some water to the Southern Ute and Ute Mountain Indian Tribes for irrigation.

ALTERNATIVE SOLUTIONS

Each of those objectives can be met with an alternative. As an example, the city of Durango has already hired an engineering consulting firm that is doing a long-range—a short-term, I am sorry, and a long-term study on its water supply. They have issued the short-term study and the present water supply system is adequate water supply to supply an additional 10,000 people, approximately. For future years, they are making a long-term study to see if it is feasible for the city to obtain water out of the Florida River, which lies east of Durango and from which we get the majority of our supply.

It is a much better and cleaner source of water. It would provide gravity flow and eliminate pumping costs. We feel in the long term it would be a much less expensive alternative. We await the results of that long-term water study.

The second objective providing municipal water to the three New Mexico cities can be met by an alternative that was listed in the environmental impact statement; namely, the Aztec Reservoir. It is off the main stream of the Animas River. It would provide 38,000 acre-feet of water, which is the quantity appropriated in this project to those three communities. It could be built at an estimated cost, according to the environmental impact statement, of about $15 million. This is a cost that could be borne by those three municipalities.

I might point out, that in Water and Power Resource Services projects such as this, all municipal and industrial costs are repaid 100 percent by the user and, therefore, this would not be an unfair burden on those three New Mexico cities.

The third proposal that we make would be to provide industrial water to the Indians. As part of the present plan for the Animas-LaPlata project, there is a reservoir on the Colorado-New Mexico border called the Southern Ute Reservoir. We feel the water could be provided to that reservoir via a gravity flow canal that would be constructed south of Durango and would eliminate the pumping portion of this project, which is the expensive part of this project.

The Indians have approximately 400 million tons of strippable coal on their property. This would probably have to be contracted to an energy development company.

With the cost of 25 cents per ton, the energy company would easily finance a $100 million canal, if that were the cost of such. We feel it would be fair and equitable for them to bear this cost. We feel that 25 cents a ton additional cost for the mining of the coal is not unreasonable.

The fourth and fifth is to provide irrigation to New Mexico and Colorado. Presently the waters on the LaPlata River are divided between the States of Colorado and New Mexico in accordance to the 1922 LaPlata River Compact in which the two States reached agreement over the division of water.

The canal that I referred to in the third objective could be financed by the Federal Government for the benefit of New Mexico to enlarge it to a size that could carry additional waters to replace the waters on the LaPlata River provided to New Mexico. That would free all the waters on the LaPlata River for use in Colorado, which meets objective five.

In Colorado, the State of Colorado, perhaps with the cooperation of the Federal Government, could build a storage facility that would more than double the annual 14,000 acre-feet of water used for agricultural use today. Not only that, improvement and updating of facilities of irrigation ditches would save an additional 25 percent of water that is presently absorbed and lost through evaporation on the ditch system in that area today. That would provide additional waters.

Also, the addition of sprinkler irrigation systems would improve the efficiency of this irrigation. With these three combinations, this would allow for a two- to three-fold increase in water supply for this area and would allow for the irrigation of additional acres.

We recognize that this would not irrigate as much land as the present project purports to irrigate; however, we feel the costs involved in providing that large quantity of water are far too great.

In conclusion, I wish to restate that a commitment of $2.87 million at this point, a small amount of money in the Federal budget, is really a commitment to a half to one billion dollar investment. We, as citizens of Colorado, do feel that it is irresponsible of us to come to you and ask for this kind of subsidy in these days when fiscal responsibility is a reality in our Federal Government. We feel that special interest groups tend to interfere with real efforts to cut the Federal budget and bring it into deficit spending.

We are asking you to accept our offer. We will set aside our special interests in order to achieve the goal of a balanced Federal budget.

[The statement follows:]

STATEMENT OF LEWIS MATIS, DURANGO, COLO.

Mr. Chairman and Members of the Subcommittee:

We are here to ask you not to appropriate $2.87 million supplemental budget appropriation for construction funds for the Animas-La Plata water project in southwestern Colorado. Such an appropriation would be "new-start" money and in these days of trying to cut wasteful federal spending represents an opportunity for Congress to save taxpayers' money.

Although 2.87 million dollars is a minute amount in the federal government's budget, it in reality represents a commitment of $478 million over the next ten years, according to the latest construction cost projections made by the Water and Power Resources Services, the federal agency which will construct the project.

As concerned citizens--all of whom reside within the boundaries of the Animas-La Plata Water Conservancy District--we ask you to stop funding for this project now before any construction begins. The project, as presently planned, is far too expensive, is wasteful of precious electricity and is environmentally detrimental. The objectives it purports to achieve can be accomplished with less expensive alternatives.

The Animas-La Plata project has the following five objectives:

1. To provide municipal water storage for the City of Durango, Colorado.

2. To provide an appropriated amount of municipal water for the New Mexico communities of Aztec, Bloomfield and Farmington.

3. To provide industrial water to the Southern Ute Indian Tribe to develop the coal reserves on their reservation.

4. To provide supplemental irrigation water to New Mexico farmlands.

5. To provide new and supplemental irrigation water to lands owned by farmers and the Southern Ute and Ute Mountain Ute Ute Indian Tribes in Colorado.

Each project objective can be met by other means at a great savings of American tax dollars.

1. Durango can possibly augment its present water rights on the Florida River where the city presently gets the majority of its water. The City has recently hired an engineering firm to conduct a long-term water study for Durango. This study will closely examine Durango's participation in the Animas-La Plata water project.

2. The Definite Plan Report lists an alternative known as the Aztec Reservoir for the three New Mexico communities. This alternative would have a capacity of 12,000 acre-feet and provides 38,000 acre-feet of water. Its cost of $15 million would be borne by the cities of Aztec, Bloomfield and Farmington.

3. A proposal made by the Bureau of Indian Affairs several years ago called for a gravity-flow canal to divert water to the proposed Ute Reservoir to provide industrial water for coal development. Because of the estimated 400 million tons of strippable coal the Southern Utes have on their reservation, the cost of this diversion could be borne by private industry.

Even at a cost of $100 million for this canal, an additional charge of twenty-five cents per ton would pay for construction.

4. This canal also provides a solution to objectives 4 and 5. At the time of construction of this canal, the federal government could participate to cover the cost of making the canal and reservoir large enough to provide water to New Mexico farms.

5. An irrigation reservoir on the La Plata River could be built by the State of Colorado. Agricultural diversions on the La Plata River average about 14,000 acre-feet annually. Building a reservoir on that river would probably double the annual supply. Improvements on present ditches could eliminate an estimated 25-percent loss of water. Installation of sprinkler systems would improve the efficiency of water use and would allow additional acreage to be irrigated. These improvements could represent a three to four-fold increase in water supply to the Colorado farmers.

In conclusion, let me repeat than an appropriation of $2.87 million in the fiscal 1982 federal budget is a commitment of $478 million. The Animas-La Plata project is an extremely wasteful expenditure of taxpayers' money and epitomizes wasteful federal spending.

URANIUM MILL TAILINGS PROBLEM

Mr. ELLSWORTH. My name is Preston Ellsworth. I am a businessman in Durango, Colo., representing myself.

May I approach the Chair with an exhibit, Mr. Chairman?

These, sir, are representative samples of the tailings pile we have in Durango from which a portion of the Hiroshima and Nagasaki bomb were produced.

We have the legacy of a large uranium tailings pile immediately across the river, a quarter of a mile from the center of Durango.

Mr. Maxie Anderson, of balloon fame, whose craft you have over here in the Smithsonian, has offered to remove this tailings pile and intends to extract enough uranium, plutonium, and other materials from it to profitably sell, ironically, to the Virginia Power Co. How does this tie in with the Animas-LaPlata project? The Animas River runs through the community of Durango, has been diverted around this tailings pile.

Senator, to give you some scale, you could put two or three of your U.S. Capitol buildings together and you would represent about the volume and height of this tailings pile. The river runs around the tailings pile and then continues on south, the city of Durango being immediately across the river.

In cross-section, the tailings pile being here, say let us represent the building the size of the U.S. Capitol. The tailings pile is planted with a rather thin vegetative cover, grasses which don't grow very well. In order to keep it from blowing around—as you can see, it is a fine grain material—they water it constantly on the top of the tailings pile. We have a number of sprinklers. Sprinklers infiltrate water through the tailings pile and into the bedrock and subsurface of the area underneath. The area was core drilled last year and we discovered that the leachate has penetrated now 5 feet into the bedrock which also, incidentally, is the interface of the aquifer which drains into the Animas River.

So we do have evidence to indicate that we have not only, of course, the tailings pile blowing around the community—and these are the same tailings that in Grand Junction, Colo., forced closure of public buildings. They used this material for backfill structures and what not. They are tearing those buildings down, and the Federal Government is saddled with the cost of removing those structures and compensating people for them.

IMPACT OF WATER QUALITY

The Animas-LaPlata project will have its main take, or the pump will be located 600 yards below this tailings pile, Senator, on the same side of the river. So, if the leachate is coming out of the pile into the river, it tends to stay on the same side of the river next to the tailings pile and will be removed, pumped directly into the treatment plant which will serve the city of Durango.

One of the problems we have with this project is there have been no tests by the Bureau of Reclamation on how much material is actually entering the river at this point and how much might potentially be transported into the Durango water supply.

The water will come out of the pumping plant directly into the filtration plant and be delivered into the system, water system of the city of Durango.

This makes the community somewhat nervous. This has been declared by the Department of Energy the second most hazardous pile in the United States, the first of which being in the Salt Lake City area.

We have lived with it for years. We have breathed it for years. We are not too interested in ingesting it in our water supply now. What I would ask of you is that this project not be funded because it has a number of questions, this being probably the most outstanding at present, that you ask of your staff people to investigate this question prior to considering the construction start moneys.

INCREASE IN PROJECT COST ESTIMATE

I would suggest possibly in the history and considering the size of this committee, in the history of Western water projects, if this project is constructed, never in the history of water projects could so few do so much to so many.

Thank you, sir.

Mr. MATIS. Do you have any questions, sir?

INCREASE IN PROJECT COST ESTIMATE

Senator BURDICK. Sure, I have questions.

I don't know anything about this project. This is the first time I heard about it. I don't follow you in your first argument that this year the project costs more than last year. Next year it is going to cost more than this year and in 5 years it is going to cost so much. I think that was the testmony of the two of you in the center. The answer to that is, build it now.

Mr. MATIS. Can I respond to that, sir? The figures we have used are those figures used by the Water and Power Resource Services in estimating the cost of the project. It does have a 10-year construction period.

Our point, I do believe, is that the project is so expensive due to its design and will include the large pumping station that Mr. Ellsworth described. That brings the cost of the project up tremendously and expenses will be far beyond the conventional gravity flow type of diversion. We feel that the objectives of the project could be met on a smaller scale with less expensive facilities. That is essentially what we are saying.

Senator BURDICK. Well, on a smaller scale, this last witness indicated there shouldn't be any scale at all due to the tailings situation.

Mr. MATIS. For example, my alternative in the city of Durango would avoid this situation entirely. We would take our water supply from another river to the east. We would simply enlarge that supply.

Mr. ELLSWORTH. May I comment, Senator?

Senator BURDICK. Sure.

ENVIRONMENTAL IMPACT

Mr. ELLSWORTH. The problem we have in Durango is we have a nonrepresentative group of proponents who have tended to ignore and, in our judgment, steer research on this project away from controversial issues such as this tailings pile. There is no doubt the environmental impact statement simply cites a report from the Corps of Engineers saying the tailings pile would be removed and, therefore, of no consequence to the project. As the core drilling has indicated, the whole area is permeated with radioactivity and is entering the water supply.

I am afraid the people who will be testifying on Wednesday will ask you for funding of this project—they tend to ignore that it is there.

Senator BURDICK. If your contention is correct, it is in the water supply now?

Mr. ELLSWORTH. No, sir; the city of Durango receives its water supply from an entirely different river.

Senator BURDICK. You say the seepage from this pile does go into some river now?

Mr. ELLSWORTH. It goes into the river and our good friends down in New Mexico are forced to drink it. But that is 15 miles downstream where the dilution is substantial. We are talking about taking Durango's additional water supply 600 yards downstream from this tailings pile on the same side of the river where the concentrations would be much heavier.

Senator BURDICK. That is a question of amount?

Mr. ELLSWORTH. Say again?

Senator BURDICK. Is that a question of amount, then?

Mr. ELLSWORTH. I am sorry, sir, we don't know the amount. No one has done any studies on this. This is what perhaps your committee could address, sir, before you consider funding this project.

Senator BURDICK. I would like to talk to the lady who held up the telephone book.

You said there are just a few telephones in the area. How many acres in this area is involved? I don't want to know the number of people. How many acres?

Ms. McCulloch. The Bureau of Reclamation claims there are 420 farm units now. What is the acreage?

Mr. Matis. About 49,000 acres. We can give you that information.

Ms. McCulloch. I don't have the exact acreage. The pumping——

AGRICULTURE PRODUCTION

Senator Burdick. Before you go into that, can you tell me how big the area is?

Mr. Matis. Yes; Ms. Englert is trying to look that up.

Ms. McCulloch. Our group formed to bring about a referendum on the formation of that water district. We had to get 25 percent of the irrigators' signatures to form that district. There were 90 irrigators over there. There are other people living over there who are not irrigators, but I thought this really emphasized the point few people did live in that area.

Senator Burdick. What I am trying to get at is this area you are talking about, how important it is to the agricultural economy of the area; that is what I am trying to get at. Is it large farms or small farms?

Ms. McCulloch. It contributes 3 percent to the economy of the area.

Mr. Matis. Let me attempt to address that also. Presently, agriculture in the county represents about 2 to 3 percent of the gross revenues in the county. The area that would be irrigated is largely farms that raise pinto beans and wheat. These are rather large farms, between 1,000 to 5,000 acres.

Senator Burdick. That percent doesn't mean anything to me because I come from an agricultural area where 2 to 3 percent of the farmers feed this country and half the world. How important is it to the economy of raising food.

Mr. Matis. It is an area of high altitude and a limited growing season. The growing season is 90 to 100 days. And the crops that could be raised out of irrigation is limited to alfalfa seed and grains for cattle feeding operations.

The proponents of the project do say a large cattle-feeding and a cattle-oriented industry must develop. I must point out, however, there is no major form of transportation into the area.

The only way to transport such farm foods out of the area would be by tractor presently.

Ms. McCulloch. 48,620 acres.

Senator Burdick. Close to 50,000 acres.

Mr. Matis. Approximately 50,000; yes.

Senator Burdick. Thank you very much.

Mr. Matis. Thank you.

Opposition—Columbia Dam Project

STATEMENT OF ZYGMUNT PLATER, PROFESSOR OF LAW, WAYNE STATE UNIVERSITY

Senator Burdick. Professor Zygmunt Plater, professor of law, Wayne State University.

Mr. PLATER. Thank you, Mr. Chairman. I am a law professor in Michigan, Wayne State University, but I worked for the past 3 years as a voluntary counsel for farmers in Tennessee on various TVA projects. My comments today are focused on the Columbia Dam project in Tennessee, but listening to the discussion this morning, I think it is important I talk about the general relevance of the discussions that are going on as well.

These are, indeed, critical fiscal times, and listening to the discussions this morning, it is important that the Federal public works subsidy program is undergoing a major change, and I hope that my testimony constructively fits the needs at this time. Let me take three specific examples and see if you can draw some of the same conclusions I draw from them.

TVA POWERPLANT CONSTRUCTION

In 1977, 1976–77, the agency came to you, as it does every year. TVA Chairman Red Wagner came and told you that you had to fund for TVA the construction of half a dozen nuclear power units at a huge price and in order to meet what he said was a shortfall in capacity. He was supported by the private interests that would receive some of those Federal subsidies from you. On the other hand, citizens came in and said that according to the statistics, there was not a need for new generation and that this would be a tremendous waste of Federal money.

Suffice it to say, that the Reagan transition team——

Senator BURDICK. May I interrupt you right there so we get on the right track. Congress doesn't fund those programs.

Mr. PLATER. Does not. TVA must get permission from you to expend moneys.

Senator BURDICK. They have permanent borrowing authority.

Mr. PLATER. That is right, and you support the borrowing authority.

Senator BURDICK. We don't appropriate any money.

Mr. PLATER. There are appropriations for TVA for research, for planning, for development of these projects, and to support their borrowing authority.

Senator BURDICK. There is no direct appropriations for powerplant construction.

Mr. PLATER. For the construction, per se. Over time, the TVA, theoretically, passes that on to ratepayers and that is my point, sir. This committee gave the go-ahead to TVA to build those projects with the loan supports. The citizens came in and gave their evidence and today the Reagan transition team has said the TVA grossly overestimated demand, overbuilt, and TVA consumers now are going to have to retire the debt you are talking about.

For the same amount of power they were previously using, they are going to have to pay more and more money to amortize the investment. The second example is the Columbia Dam.

COLUMBIA DAM

Red Wagner came and told you that TVA had to build the Columbia Dam. It has no generators, so he said for recreation and for the profits from resale of condemned lands. The citizens came before you and said that this project doesn't generate any electricity, the water will be a soupy algae mass, and that the project was not cost-justified even by TVA's own figures and TVA has never claimed a positive cost-benefit ratio of this project.

The committee chose, again, to accept the agency's testimony totally and reject the citizens. There was a study done by the House Committee on Governmental Operations that I recommend to you—House Report 96–1633—which concluded after the most exhaustive study ever done of the Columbia Dam that the project was not in the public interest using TVA's own figures.

It was something like $95 million still to spend on the project. They have only spent 35 percent. The project will not be cost-effective, but if you followed the $15 million alternative, it would. Normandy Dam, which this committee allowed TVA to build, was predicted by TVA to have 400 industrial jobs by today. The citizens said industry would never come. Today, there is not a single job that has been created by industry on the Normandy Dam site.

TELLICO DAM

And then there is Tellico. They came in and claimed that Tellico was necessary, again, for recreation primarily, the last of something like 24 dams within a 60-mile radius. The citizens came in and noted, again, in economic terms—and that is one of my points—in economic terms it was wasted, wasteful, it was destructive, the dams did not pay, there were no generators, and the recreational statistics were false.

The citizens were again backed up with a GAO study cited in my testimony and there was a Cabinet-level economic review which unanimously concluded that it would be cheaper not to destroy the farm lands in the valley to create a lake which would only divert a little water to a nearby generator on a nearby lake, that the benefit-cost ratio was severely negative even though the project had been continuing for years.

The citizens worked for 6 years on this project. It got out all the economic information. In the end, a House committee after three hearings in other proper committees, the House committee overrode the law in 42 seconds with an appropriations rider.

Today, that valley has been drowned, 340 farm families have been thrown off their land, but most of them not so they could be flooded, but that industry might come in. Suffice it to say, no industry has come in.

NEED FOR INDEPENDENT ECONOMIC ANALYSIS

Looking at those three examples, some conclusions can be drawn. No. 1, this committee needs good economic information and who do you trust? Economists argue both ways, but essentially the committee has been hearing mostly from agency economists. There is an old poetic adage, "Whose bread I eat, his song I sing". That applies to lawyers, economists, and, in this case, the economists you should care about.

On the other hand, you have outside economists who tell you these projects are not cost-justified. It seems to me these examples indicate that the committee must take account of outside economic fiscal information.

Second, I think it is important that this committee do some followup on old projects to find out if the benefit-cost ratios that you were asked to accept ever have proved out in practice, because in the few cases that have been done by nonagency economists, it is clear that they have not, and I cite that in my testimony.

That, indeed, to expect benefit-cost ratios to be positive, misses the point. Nobody in Washington really believes the economic benefit-cost projections, but I would suggest that it is important today that accurate fiscal projections be used at a time of tax cuts by President Reagan. There must be spending cuts to face these or there will be a real credit panic at the end of the year or at the end of the next fiscal year.

That means that every spending decision this committee makes must be the best possible spending decision and a project that is not only not maximally beneficial but not beneficial at all becomes economically subversive.

I think that in this light the Columbia Dam has been zero-budgeted by the Reagan and Carter administrations both for this year. I would suggest that, based on the economics and based on this authoritative study and the GAO study, the committee would do well to continue to zero-budget it. I think there might be a constructive alternative, that this committee should ask its staff to build a better pork barrel. There are ways to spend Federal money so they have maximum benefit. Building a transportation structure that helps people, educational resources, health resources, there are alternatives that are much better than the idea of the 1940's which is just a stop up the last marginal dam site.

It seems to me also that it is important to recognize that doing things the old way is not only economically subversive today, but it is subversive of democratic practice to have the House Appropriations Committee override with an unannounced, undebated, unidentified rider in 42 seconds, 6 years of efforts by citizens, by the GAO, by the Congress' own review committee, and by the courts deserves your very most serious attention in process terms as well.

I think I have said all I want to say. Do you have any questions?

Senator BURDICK. You said you are a lawyer?

Mr. PLATER. Law professor and a lawyer, yes.

Senator BURDICK. Wouldn't you say the Tellico Dam was raised adjudication?

Mr. PLATER. Sir, a society that doesn't learn from its mistakes is either doomed to repeat them or wants to repeat them, and I don't think that makes good legal sense or societal sense.

Senator BURDICK. You specifically mentioned Tellico Dam which has been completed and there is no further legal objections.

There have been lawsuits, delay. It is over?

Mr. PLATER. That is right.

Senator BURDICK. Do you want us to tear it down?

Mr. PLATER. Sir, as I said, if there are lessons to be learned from our past actions, we critically must learn them and what I am suggesting is that in the case of Tellico, in the case of Columbia, in the case of millions of dollars which TVA has committed on nuclear powerplants, which everyone seems to admit was a mistake, we are missing out on an indispensable piece of information for the future to ignore how it happened, why it happened so as to prevent it from happening again.

There is no one who has followed the economics of the Tellico project and the Columbia project who argues seriously to an economist that either project was cost-justified. Tellico is in the past, sir, but Columbia is the same kind of project in the present.

The Reagan budget has zero-budgeted it. But I am indicating to you we learn from the past and it is important that Columbia and other marginal projects for the sake of the economy of this Nation be restricted as well.

Senator BURDICK. Thank you very much.

[The statement follows:]

STATEMENT OF ZYGMUNT J. B. PLATER, WAYNE STATE UNIVERSITY LAW SCHOOL

I am a professor of administrative law, land use, environmental law, and property law; from 1973 to 1976 I was professor of law at the University of Tennessee; beginning then, and continuing until 1980 I was volunteer counsel in the lawsuits and extensive public debates on the economic, social, and ecological effects of the TVA Tellico dam.

My comments will primarily deal with TVA issues, but are intended as well to be relevant to the energy and water public works program in general.

Let me use three specific TVA examples to set up some premises and permit some constructive suggestions:.

(1) At this time of year in 1976 and 1977, as in prior and subsequent years, the Chairman of the TVA, then Mr. Aubrey "Red" Wagner, came before you to testify in favor of new appropriations. He told you that the TVA region had a desperate shortage of electric power generation capacity and desperately needed half a dozen new unclear units, at its Yellow Creek, Phipps Bend and Hartsville plants.

At the same time, informed citizens testified that TVA was actually over built; that the demand statistics were in reality far lower than TVA's claims, and power capacity needs (even allowing a 20% margin for flexibility) did not justify adding new units to the TVA system and to TVA ratepayers' monthly bills. A 1978 GAO study (98-75, Electric Energy Options-TVA) backed up the citizens analysis and testimony.

The appropriations committees at that time chose to accept the TVA claims and disregarded the outside testimony, funding all the projects that TVA proposed.

This year Tennessee ratepayers and the United States are paying the price. As the Reagan transition team noted, the TVA system is now committed to a grossly expensive and unnecessary building program. Even if some units are delayed or scrapped, millions have been irretrievably sunk, and on the units which continue, Tennessee ratepayers will be obliged to pay ever higher prices for unnecessary power capacity, even though their consumption remains the same.

(2) The Tellico Dam. Chairman Wagner also came before these committees repeatedly to urge funding for his Tellico dam project which claimed recreation benefits and profits from the sale of condemned farmlands as its two primary purposes. Since it was the beginning of the energy crisis, however, Chairman Wagner emphasized possible electric power benefits. And it was he who

repeatedly focussed the issue an "insignificant" little fish, the snail darter.

The citizens' testimony was consistently based upon economic facts: that besides destroying a beautiful historic river, the project's claimed recreation benefits were negative in comparison to the flowing river's; that even if it were proper to condemn more than twice as much private land as necessary for the reservoir for federal resale, prior TVA experience showed that new industry would not come to the fluctuating lakeshore; and that since the dam did not have generators, the electric power produced through diversions would equal less than 23 megawatts equivalent (and this would not even be peaking power). A GAO study and an intensive Cabinet-level review backed up the citizens' deflation of project benefits, and the desireability of a river-based non-dam development alternative.

Today, because of an appropriations rider exempting Tellico from all contrary laws, that beautiful river is dead, 340 farm families have lost their lands, and along the riverbank the most sacred places of the Cherokee civilization lie under 10 feet of mud and water. The water diversions have produced a paltry 23 megawatts equivalent of power, at a capital cost higher than the most expensive nuclear facilities; the farmlands condemned for industrial development lie empty, and no industry has come. Even the real estate industry, which provided the real push for this project over the years, is not happy with the results.

(3) The TVA Columbia dam project on the Duck River is again before the appropriations committees this year, and citizens have been joined in their factual testimony by the extensive 197-page analysis prepared by the House Committee on Government Operations. (House Report 96-1533, Dec. 11, 1980). The citizens over the years have noted that this dam is an economic negative in every regard. Recreation--minus; industrial development--purely speculative; water supply--unnecessary in that region; loss of 11000 acres of farmland; most of the "lake" lying in open mud-flats six months of the year; destruction of a farming community and a beautiful remnant stretch of river. And the Government Operations committee came to that same conclusion: it was "curious to know how you can add that many minuses and neutrals and get a plus at all, just mathematically, even with the new math." (Comment of Rep. Fithian, Gov. Ops. Report, 102).

> "Based on the investigation of the Subcommittee on Environment, Energy, and Natural Resources and on its own review of the record, the Committee has determined that completion of the Columbia dam and reservoir is not in the public interest. That finding is based in part on TVA's own heretofore-undisclosed determination that the original project benefits can be obtained without a dam, without destroying 54 miles of river, without eliminating 13,000 acres of farmland and at a favorable benefit/cost ratio. Those project benefits under the no-dam alternative can be obtained for $15 to $25 million-compared to the $78 million needed to complete the planned Columbia dam and reservoir. TVA repeatedly showed a disregard for its fundamental responsibility to American taxpayers to spend their tax dollars wisely." 103-04, 108

And a further note: we often forget that even TVA never claimed that Columbia Dam was cost-justified--it justified the dam by including it in a package with the upstream Normandy Dam. TVA based its economic claims in part on a claim that Normandy would have generated 400 jobs by today, five years after completion. (TVA, 1969 Supplementary Notes, 13; Gov. Ops. Report 12). The citizens refuted those claims. The appropriations committees accepted TVA's arguments completely, and rejected the citizens' completely. Today not a single industry has even expressed an interest in coming because of the dam, and not a single job has been created

These examples of the past are only painful, embittering reminders, unless we can use them to improve future decisions.

Accordingly, here are some constructive conclusions:

1. Government spending decisions are only as good as the information on which they are based. If today's decisions are to be viewed in the future as something more than wasteful mistakes, then the committees might to well to be a bit skeptical of the benefit claims of the construction agencies and the private parties who will profit directly form the federal construction subsidies. The past indicates that the committee should take account of the research and factual testimony supplied by citizens who are outside the agency subsidy process. This is equally ture whether citizens are talking about direct monetized costs and benefits or non-monetized social costs and benefits, which also are real and must be part of rational decision making.

2. Review past projects to see if their actual performance has lived up to agency claims. Now, it could be argued that the examples I have given, where citizen economic testimony was ultimately more reliable than the agency's analysis, may be exceptions. Remarkably we do not know, for the appropriations process has no retrospective accountability provisions. It is

revealing that construction agencies and the appropriations process have not generally undertaken follow-up studies to examine whether the benefit-cost claims made for various proposed projects in the past were borne out in actual performance once those projects were built. Sources within TVA report that no follow-up studies have been made because there is general internal agency agreement that past projects built in the last two decades do not fulfill their purported projections. One recent study by a non-agency analyst revealed that transportation benefits claimed in 52 water projects over the past 35 years actually had average benefit-cost ratios between 0.0000 and 0.0009; only nine of the projects had any net benefit at all. Allen, An Ex-Post Benefit-Cost Analysis of U.S. Waterway Construction Projects, Univer. of Penn. Dept. of Economics Ph.D., 1979. The few other studies which have been made reach similar results. Further follow-up studies by non-agency analysts would help the committees classify the economic foundation of present proposed projects. Information feed-back and accountability are basic needs in any rational decision-making system.

At this point let me digress a moment and note that some will say these first two suggestions are naive: that it is well know in Congress that agency benefit-cost claims are highly fictionalized justifications for sending federal subsidies out to the districts. Thus economic criticisms of agency project claims by non-agency economists and other citizens miss the political point. According to this viewpoint, moreover, the porkbarrel system is bigger than all of us, politically far beyond the possibility of conscientious modification.

Times are changing, however, and with them the political context of the public works programs. There have been interesting indications that the Reagan budget will retreat somewhat on selected projects. At that time of tax cuts, the nation risks a real credit panic to the degree in which it does not cut back cost-inefficient spending. Now may be the time to say that it is subversive of the national economy to fund projects that are not only not maximally cost-beneficial but also may actually be negative on an overall benefit-cost analysis. The most profitable hundreds of water projects were built in the 1930's, 40's, and

50's; the country may no longer afford the luxury of being wasteful.

3. In that vein, perhaps the appropriations process should explore ways to build a better pork barrel. The political function of the public works programs doesn't have to continue a program of the 1940's. There are a variety of cost-efficient technologies for public spending programs--constructing rail and other energy-efficient transport systems, educational and health care facilities, implementing (as TVA has begun) broad programs of home retrofitting for energy savings, rebuilding deteriorated dams, cleaning out silted-in past projects, and so on. Such programs would deliver money in cost-efficient form, with credible multiplier effects, and politically appreciable local consequences.

4. I hardly need say that, based on the public record, this committee should follow the cost-cutting lead of the Reagan Administration and authorize no more funds for the TVA Columbia Dam.

Finally let me note that there are often dangers in having a system that ignores the real costs and benefits of prepared projects. These constitute yet another form of "subversion."

As a teacher of law I counsel hundreds of students to use our governmental system to give effect to their ideals and to the fruits of their analytical research. I have been honored to work over the past seven years with a magnificent group of Tennessee farmers, students, and the Eastern Band of Cherokees, trying to protect a fabulous remnant of the Tennessee River system. Armed only with the facts and the law they were able for six years to make the system work--in the courts up through the Supreme Court, in Congress in three years of hearings in the proper substantive committees, and in the executive branch, where often a full dress economic review by a Cabinet-level review committee set up by Congress unanimously upheld their position on economic grounds. But the porkbarrel system subverted their efforts. On June 18, 1979, in just 42 seconds, in a virtually empty chamber with no mention or discussion of the Tellico project, the House Appropriations Committee slipped a rider onto the 1979 public works appropriations bill overriding all laws violated by that project; once on the appropriations bill it was virtually impossible that it could be removed. This cynical move violated the rules of the chamber, was unprecedented in its blanket scope, and ignored the merits so painfully and democratically worked out by the citizens over the years. Several hundred of us had labored for years for that valley; part of each of us died with the river, and along with it, part of our faith in the integrity of the governmental system. You can in some measure, perhaps restore the latter, by your actions in these new times, and in the future.

OPPOSITION—CENTRAL UTAH PROJECT

STATEMENT OF DOROTHY HARVEY, UTAH WATER RESOURCE COUNCIL

Senator BURDICK. Dorothy Harvey, I believe, is here for the Citizens for a Responsible Central Utah Project.

Ms. HARVEY. Mr. Chairman, I am here today as a member of the Utah Water Resources Council and of the Citizens for Responsible Central Utah Project. I am submitting testimony today for Peter Hovingh of the Citizens for a Responsible Central Utah Project organization. I will submit another statement for Cal Osborn in the Utah Water Resources Council.

This is about my fourth year, I believe, testifying, and every year I have come with different issues. I have not had an opportunity to explain the CUP to you and that will take about 6 months' time to understand the complexities. So, I will address today the current situation and then you can question me and I will do my best to provide you answers.

ACTION REQUESTED

Submitting the statement, we request the deletion of $71 million for the Central Utah Project from the budget proposals now being considered by this committee. We request no additional funding be provided for the Central Utah Project pending a review of the need for the entire project as presently planned. I might explain to you that the Central Utah Project is such a complex water development effort, it involves construction at several unit levels across mountain range. And it is about 20-percent completed now.

It is our belief that production of costly federally developed water is not consistent with the Reagan purpose for reducing Federal spending, particularly when available opportunities for State water management programs, which are cheaper, remain unexplored.

BONNEVILLE UNIT, CENTRAL UTAH PROJECT

STATUS OF REPAYMENT CONTRACT

We would like the committee to address immediately and to resolve the repayment status of the Bonneville unit of the Central Utah Project. This is a participating project in the Colorado River storage project.

As of 1981, the Bonneville unit was approaching the authorized ceiling and a repayment contract is under negotiation. It is important the committee read all the pertinent interpretations and understanding of the proposed supplemental repayment contract now before the Department of the Interior and the Central Utah Water Conservancy District. A letter clarifying repayment of obligations to the Federal Government was sent from former Assistant Secretary Guy Martin, Land and Water Resources, to the Commissioner, Water and Power Resources Service, January 18, 1981. The information stated in this letter was not known to Utah residents.

What I am saying is, the complications of adding on payment for additional water combined with already-owed obligations to the total cost then to Utah taxpayers and water users was not the $60 per acre that they had been led to believe, but potential costs anywhere from $163 to $339 per acre-foot and it took two lawyers and three economists in the Department of the Interior to figure this out. So we citizens didn't understand it.

Every time I have been here, I have been limited to 5 minutes. I am prepared to stick to 5 minutes so I will state the situations that are creating dissatisfaction with the CUP and what they stem from.

There is growing dissatisfaction from many segments of Utah society, with the failure of the CUP to meet current needs. This project was planned early in the century, planned to be implemented after World War II and situations have changed.

For one thing, the project was planned to supply water to the western Salt Lake basin. So why transport 136,000 acre-feet of water out of a basin where it is needed or to a basin in Salt Lake City that already has adequate water that just needs to be managed efficiently?

Here are some of the other objections. Projected increase in construction costs of the CUP, on an 18 to 20 percent completed already are four to five times the authorized costs.

The proposed repayment contract stipulates a repayment ceiling seven times greater than the present ceiling.

Costs to Utah taxpayers of undeterminable length of time, in other words in this contract, it is not clear whether on this contract, repayment contract is signed that this is the last contract the citizens will be obligated to repay, and for amounts which far exceed those that the public agreed upon when they agreed to the development of the CUP.

The failure of the State to utilize extensive quantities of wasted and available but unutilized water resources in the Salt Lake basin and Utah basin, to develop available and cheaper State water management programs, and to instigate municipal, industrial, and agricultural irrigation conservation. Utah's water problem is not one of lack of water, it is one of failure to manage efficiently what water we have.

You might just as well appreciate the fact that all these programs that are on line, dual water management system for Salt Lake County, which would only cost $40 million to implement as compared to $0.25 billion now for the Bonneville unit, the State is holding off developing its own State water management until completion of the CUP. This is a policy.

Another objection is the failure of CUP to meet current water needs in the area of the need of Utah citizens, both Indian and non-Indian. As I said, the demography of the State has changed.

The continuing uncertainty of locations for safe construction of projects. Cost of CUP overruns are mostly based on geologic problems. A bridge crossing a reservoir, transportation bridge and abutments begin to crack. The tunnel constructed to convey the basin waters across the mountains in the Salt Lake basin, about $3 million worth of time and effort is down the line, because of the seepage of water into the shale and the inability to get through. And this type of pattern has confronted the whole construction of this facility.

EARTHQUAKE POTENTIAL

And, incidentally, in September 1977, there was an earthquake, a series of earthquakes, the epicenter of which was 25 miles from this key transbasin dam location. The tremendous force was felt all the way over to Grand Junction and citizens of Duchesne, the town of Duchesne, say maybe 15 to 20 miles below the dam site, are very uneasy and the department of water resources did not assure them at all that they can provide for the dam's safety.

Then my final point is, that in view of the fact that the State has not attempted to develop conservation practices, Salt Lake City consumes 40 percent of its municipal water for lawn watering. This is a semidesert area. Why try to make it like New England? In view of the fact that none of the widely accepted conservation measures that reduce water demand by cities, by industry, and for agriculture seems arrogant that we destroy 12 wild mountain rivers, we dewater them, we dammed them to route the water one place or another where it really isn't needed, and the high cost of replacement of the fish and wildlife that is lost in all these processes.

This is a very—the high wilderness area, mountain area, popular area for fishing, for hunters. We do not support destroying these and then constructing other recreation surrounding reservoirs. These are some of the major points to bring to your attention this year, and I would hope you will consider that we are really trying to help Mr. Reagan the very best we can to reduce the Federal budget. I will be glad to answer whatever questions I can and what I can't I will supply you the information.

Senator Burdick. Thank you very much.

[The statement follows:]

STATEMENT OF PETER HOVINGH, CITIZENS FOR A RESPONSIBLE CENTRAL UTAH PROJECT

Dear Mr. Hatfield:

This hearing presentation is made to request the following:

1. The Committee address and resolve the repayment status of the Bonneville Unit (BU) of the Central Utah Project, participating project in the Colorado River Storage Project.

   It is important that the Committee members read all pertinent interpretations and understandings of the proposed supplemental repayment contract now before the Department of Interior and the Central Utah Water Conservancy District. A letter clarifying repayment obligations to the Federal government was sent from former Assistant Secretary Guy Martin, Land and Water Resources, to the Commissioner, Water and Power Resources Service, January 18, 1981. The information stated in the letter was not known to Utah residents.

2. The Committee reject the $71,000,000 FY 1982 proposed funding for the Central Utah Project pending consideration of our reasons for opposition to continued CUP development, as stated in our statement. The Committee review need for the CUP as planned.

   It is our position that much of the public dissatisfaction with the CUP stems from the following situations:

   - Projected increases in construction costs of CUP, only 18 - 20% completed, already are four to five times authorized costs.
   - The proposed repayment contract stipulates a repayment ceiling seven times greater than the present ceiling.
   - Costs to Utah taxpayers, of undeterminable length of time, and for amounts which far exceed those the public agreed upon for development of CUP.
   - The failure of the State to utilize extensive quantities of wasted and available but unutilized water resources, to develop available and cheaper State water management programs, and to instigate municipal, industrial and agricultural irrigation. Utah's water Problem is not one of lack of water, it is one of failure to manage efficiently what water we have,
   - The hold-up on State water development until CUP is completed.
   - The failure of CUP to meet current water needs in the area of needs of Utah citizens - both Indian and non-Indian.
   - The continuing uncertainties of locations for safe constructions of projects CUP cost overruns are mostly based on geologic problems.
   - The exhorbitant and unnecessary environmental destruction. High costs of replacement.

I am submitting this statement on behalf of Citizens for a Responsible Central Utah Project organization, Salt Lake City, Utah. We request deletion of $71.000.000 for the Central Utah Project from the FY 82 budget proposals now being considered by this Committee. We request no additional funding be provided for any Central Utah Project Unit pending a review of the need for the entire Project as presently planned. It is our belief that production of costly federally developed water (CUP) is not consistent with the Reagan Administration purposes for reducing federal spending, particularly when available opportunities for State water management programs, which are far cheaper, remain unexplored.

One potential significant problem which requires management's immediate attention and resolution is the repayment status of the Bonneville Unit (BU) of the Central Utah Project. The Water and Power Resources Service entered into a repayment contract in 1965 with the Central Utah Water Conservancy District (CUWCD) and agreed to contract provisions which explicitly limit CUWCD's repayment obligation to $156.8 million. Based on the Service's estimate to complete the project, this contractual limitation on reimbursable costs will preclude recovery of additional reimbursable costs of about $198 million. Although the Service forecasts that construction expenditures for BU will exceed contract repayment obligations in fiscal year 1981, necessary amendatory contract actions providing for repayment of the project cost increases have not yet been taken.

In the area of irrigator's ability to pay, we noted that the Service recently completed an analysis which shows that since the date the CUWCD executed its repayment contract, the ability to pay for irrigators in the project service area has increased from $16.4 to $69 million. While the $69 is a preliminary estimate subject to change, the long term repayment contract nonetheless contains no provision for increasing repayment obligations to recognize substantial increases in ability to pay. When the CUCWD contract is amended to cover increased construction costs, the Service should at that time include contract language which insures that water rates paid by irrigators are based on current periodic determinations of ability to pay.

As taxpayers with repayment obligations to the Federal government we view with considerable alarm, the possibility that we may be paying for an undetermined length of time, reimbursable costs for a Project whose proposed repayment ceiling will be seven times greater than the present ceiling on which we voted to support the Project's development.

As users of Municipal and Industrial water which we understand could be costing us between $163.62 per acre-foot of water per year and $339.31 per acre foot, we are now looking to the State to develop alternative water management opportunities. These include the cheaper utilization of available and wasted water in the Bonneville (Salt Lake) Basin and in the Uintah Basin. These include introduction of widely accepted water conservation practices for water use by municipalities, by industry and by irrigators. It is well known that introduction of new plumbing fixtures in the homes - for toilets, showers and faucets - combined with leak repair can cut residential use by 38-68%. Reforms in outdoor water use by homeowners, which is some 40% of their water supply, is needed in semi-arid parts of the country. Utah's problem is not one of lack of water, it is one of inefficient use of water that is readily available.

As citizens concerned about our energy situation, we cannot support a water development Project which is to remove some 60,000 acre feet of water from the Uintah Basin/Colorado River sources - where oil shale development is underway and requires sizable quantities of water - and transport this water across the State to the Bonneville Basin where it is not needed. CUP planning took place before our energy situation became acute. So it doesn't meet present Utah needs.

As Utah citizens who enjoy outdoor recreation associated with fishing rivers and wildlife in the Uinta Mountains in northeast Utah, we cannot support a Project which destroys a significant amount of these resources which also support an important economic base in our State. We believe it is wholly out of step with the Administration budget cuts to have already existing fish and wildlife resources destroyed for unneeded water development and then to spend millions of dollars substituting other reservoir recreation resources. We already have more than enough reservoir recreation in the State, so again, the CUP does not meet our needs in replacing already existing and desirable recreation.

Mr. Chairman, you should be aware that support for construction of the CUP was based on use of Indian water and deferral of use of that water by the Uintah and Ouray Indian Reservation Tribe. As a condition for use of this water, the Ute people were promised certain mitigation and ultimate compensating projects. Only one or two have been either completed or started and the Ute Indian Ute Final Phase, has been dropped. To date, equitable treatment of the participating Indians has not taken place. It has been delayed for non-Indian* purposes in the development. The CUP projects in the Uintah Basin, even if completed, will not fulfill needs for livelihoods of the Indian people on their Reservation. An earlier Uintah Irrigation Project, started in 1906 primarily for Indian improvement of their arid land, has not been continuously funded by Congress and has fallen into disrepair. The Uintah Irrigation Project rehabilitation is one of several important and cheaper water management options needed for Reservation occupancy. Other answers than proposed CUP projects must be considered.

We would like to inform this Committee, that even with projected funding for CUP completion of a Project which we can do without, there is no guarantee that costs projected in a new Repayment Contract will be sufficient. Individual parts of the entire development have consistently had cost-overruns primarily due to unplanned for and unmanageable geologic conditions. In the fall of 1977 (September 1) the epicenter of an earthquake was located only 25 miles from the proposed Upper Stillwater Dam. This is the key dam in the trans-basin diversion to the Bonneville Basin. Residents in the city of Duchesne, below the proposed damsite, are very concerned about their safety if this dam is completed.

The Committee should recognize that serious inequities in taxing Utah citizens for CUP repayment have resulted in, and continue to produce, opposition to repayment. Salt Lake City residents will pay 60% of the costs of CUP water and will receive only 20% produced. Residents of Duchesne County are taxed

* A number of tremors were noted over several days, as far away as 150 miles, and around 4.5 on the Richter Scale

for water they won't get. This amount was around $350,000 per year.

Dissatisfaction with the CUP on many grounds - costs, costs to Utah residents, the existence and non-development of cheaper alternatives pending completion of CUP, the failure to meet current user needs of both Indians and non-Indians, the uncertainties of locations for safe projects, and the exhorbitant and unnecessary environmental destruction - justify our request that this entire Project be no longer funded and be reviewed by this Committee for need for development.

I am submitting additional information on water conservation as well as a statement by Calvin Osburn, Utah Water Resources Council, Salt Lake City. Mr. Osburn was unable to be present to speak to this Committee.

SUBCOMMITTEE RECESS

Senator BURDICK. We will be in recess until 2 in this room.

[Whereupon, at 11:22 a.m., the subcommittee was recessed, to reconvene at 2 p.m., the same day.]

(AFTERNOON SESSION, 2 P.M., MONDAY, MARCH 23, 1981)

HEARING PROCEDURE

Senator STENNIS [presiding]. Ladies and gentlemen, if we may come to order, please.

As most of you know, this is the subcommittee of the Senate Appropriations Committee that handles appropriations for energy and water projects, including particularly the Tennessee-Tombigbee Waterway and activities in the Lower Mississippi Valley Division. We are highly privileged to have all of you here today. It is my purpose to hear the Governors of these States first. This project, I believe, draws more chief executives here than any other single item in the budget. From year to year consistent, uninterrupted support from the so-called four contiguous States.

We have a valued member of our subcommittee, Senator Sasser of Tennessee, who has a conflict with another urgent matter. So we will let him come first so we can hear him. I am going to take him ahead of the Governor, if that is agreeable with the other members, and then we will hear from the Governors of these States beginning with Governor James of Alabama, who is chairman of the Tennessee-Tombigbee Waterway Development Authority.

Senator Sasser.

STATEMENT OF HON. JAMES SASSER, U.S. SENATOR FROM TENNESSEE

Senator SASSER. Thank you, Mr. Chairman. I want to welcome our distinguished Governor from the State of Tennessee, Governor Lamar Alexander, before the committee this afternoon, and also welcome the other distinguished Governors.

We, of course, are discussing today a project that is vitally important to our area of the country.

Mr. Chairman, you and I, and I think the other members of this committee, know that this is a most cost-effective project, the Tennessee-Tombigbee Waterway project, and that our area of the country will realize $137 million a year in annual economic benefits when this waterway becomes a reality. Now more than three-fourths of the funds for the project have already been committed at this point. And I think we should go ahead and complete this project just as rapidly as we possibly can because each day that passes and each month that passes, even each year that passes, it simply raises the cost of the project and makes it that much longer before our area of the United States can enjoy the enormous economic benefits that we anticipate will fall from the completion of this project.

Mr. Chairman, I know and you know and the other members of this committee know and I am sure these distinguished Governors know, that the opposition to the project is going to continue to be vocal, but I am confident that this project will continue to have the overwhelming support of every member of this committee and also the overwhelming support of all of the Governors from the Southeastern part of the United States that this project impinges upon.

I will not take up any more time except to say I look forward to hearing as much of the testimony as I can today, Mr. Chairman. I regret that I will be unable to stay for all of the testimony, but I do look forward to hearing from the Governors. I just wanted to come by the committee and underscore my continued support for the Tennessee-Tombigbee project. Thank you, Mr. Chairman.

Senator Stennis. Thank you, Senator, and your remaining remarks, if you have them in writing, will be made part of the record.

STATEMENT OF HON. JOHN C. STENNIS, U.S. SENATOR FROM MISSISSIPPI

Senator Stennis. Gentlemen of the subcommittee and other friends, I have a very brief statement here to make at this time.

The Tennessee-Tombigbee Waterway is a public works investment which will contribute greatly to the economic growth of our Nation. All of you here today can be very proud of the contribution which this great work of engineering will make to the future growth of our Nation. The magnanimous achievement of the thousands of men and women who have contributed to this project over the years is now very evident. Recently I had the honor of closing the gates on the lock at Columbus which started the filling of a pool of water that stretches 23 miles from Columbus to Aberdeen. Closing the gates at Columbus marked completion of three of four locks and dams in the river section of the waterway. Only the Aberdeen Lock and Dam remains to be completed on the river section.

In the canal section, four of the five planned locks are under construction. Bids have been opened on lock E, the remaining lock in this section. When E is awarded, this will be the last major installation in the entire waterway to be placed under contract.

The divide cut is well underway and is reported to be 60 percent complete by the Corps of Engineers.

In short, I am proud to report to the committee and to you that the Tenn-Tom is more than half physically finished and more than 75 percent of the total estimated cost is under contract. The project is on schedule and I am confident that this great undertaking will be carrying commerce to and from points on the great Ohio and Tennessee River systems and on the Tenn-Tom Waterway to the Port of Mobile on the gulf in the near future.

Due to the hard work and support of you people since the project construction was started in 1972, the project is now at a point which insures final completion.

Of course, there will always be a few who fail to see the economic significance of a more direct slack water route to the gulf but I am confident that if we continue to bring the facts of this waterway before the Congress, the waterway will be sustained as it has been by four Presidents, including President Reagan, and the Congresses since the initial appropriation in 1971.

I pledge that I will do everything within my power to support your efforts in bringing the waterway to its full completion.

In addition, let me say this, everything up here this year in the Congress is up for review. It is reviewed to a large extent every year, but this year the entire budget, you might say, is up for review and is put in issue by the President of the United States who has already filed his recommendations, his budget report. This Tennessee-Tombigbee project—I am looking here at the Governors, Senators, and Representatives from these States. They have been supporting this project a long time, without exception, in a very solid way at home by recommending to their legislatures the spending of the people's money of the State, by coming here, by cooperating with Congress, and every other way. People back at their home States that know most about it are for it. I know that, because I pass among them.

So I want to thank you as one of you. The new President that has just come into office, he is interested in it, too, and finding its merits, put it in his budget. We are beginning in the Senate this week the debates on this budget, the general budget. I am delighted that you can be here today to take part. This is the only project I know anything about that brings out this many Governors. If there is any Member here—we are all yielding to the Governors—but if there is any Member here that just feels like you must leave and want to say a very brief word like Senator Sasser, maybe a little briefer than that, I would recognize them now for that purpose. I understand Senator Denton is here and wanted to say a brief word.

Senator, do you have a brief statement you wanted to make and put the rest in the record?

Senator DENTON. Yes, sir, I will be delighted to do so. I have to go to an Armed Services Committee meeting.

Senator STENNIS. There is nothing more important than this, but you have to divide your time.

Senator DENTON. It is a question of when you want to take me, sir. If you want to have it now, I will be glad to give it to you now.

Senator STENNIS. We are glad to recognize you.

STATEMENT OF HON. JEREMIAH DENTON, U.S. SENATOR FROM ALABAMA

Senator DENTON. I spent the weekend on it, Mr. Chairman, and I am going to continue to work hard on it. I want to thank you, and distinguished members of this subcommittee, for providing me this opportunity to appear before you in my support of the Tennessee-Tombigbee Waterway. It is a privilege to appear in the company of my Governor, Fob James, and many distinguished representatives and delegates from those States directly affected by this project.

I think we in the area should point out that this is a vital project for the Nation as well as to our particular area, Mr. Chairman. And I realize that you and others on this subcommittee, as well as many in this audience, have appeared before this subcommittee for every year in the past several and have been involved since the Tenn-Tom's inception. I do not have a great deal to add, but I will try to underscore some facts which the committee may or may not be aware of.

TERMINATION COSTS

The Corps of Engineers in Mobile took me through a very detailed briefing this weekend, from you, Mr. Chairman, and others, and I would like to make a point that those who have raised objections to this waterway project have estimated the $25 million would be sufficient to terminate the Tenn-Tom and properly restore the environment. This is an error, as you know, Mr. Chairman. It will require $328 million, not $25 million, to terminate it. Given that $328 million, only $353 million more is needed to complete this vital project. And then once complete, at least $136 million annually is accrued in savings by using this shorter route. I would say to this subcommittee, it might be good to put it this way, it would be penny-wise and pound-foolish to terminate the project in this way.

Over the years, Tenn-Tom has earned the bipartisan support of five Presidents, numerous congressional delegations, and a host of private industries and business concerns. Why? Because completion of the waterway will provide a more economical waterway transportation system for the 14 States in the region currently shipping bulk commodities and by trimming more than 900 miles from present water routes between these many points of origin and the Gulf of Mexico.

As one of the busiest waterways in the Nation, it will provide the least expensive and most efficient mode for moving coal from the abundant Appalachian field to the Gulf of Mexico.

TRANSPORTATION SAVINGS

The savings in time and money in shipping steam coal and high sulfur coal will have a positive effect on both national energy independents and our balance of payments with respect to other nations.

High sulphur coal has been only marginally exported in the past because of high shipping costs. The shortened route created by Tenn-Tom would save an estimated $2.80 per ton of coal for the new fields on or close to the waterway making exports profitable, as you know, sir. The estimate of $135 million annual benefits, which the distinguished Senator from Tennessee mentioned, is an extremely conservative estimate being based on 1975 data. Since that time, the prospect for coal production and the cost of oil are much higher.

Also, experts are projecting an increased demand for steam coal for the 50-year period beginning in 1986. The same $2.80 per ton shipping applies here, encouraging the mining of coal fields which heretofore were determined noneconomical.

The shortened route will help reduce fuel consumption on the waterway by 25.4 million gallons per year and, upon completion, it will again fit one of the areas of greatest American poverty, the Appalachian region.

NATIONAL DEFENSE BENEFITS

I would like to point out one other advantage which may not have been mentioned in the past and that is that relating to national defense. The completion of Tenn-Tom does have important implications for our national security, Mr. Chairman. Since we both serve on the Armed

Services Committee, you would know with me that the Holston volunteer and Milan Army ammunition plants, the Redstone Arsenal, and Marshall Space Flight Center, as well as the Army's armor center at Fort Knox, are a few of the many defense activities which are sure to accrue benefits in flexibility, costs, and efficiency in a mobilization or wartime situation.

I urge this committee to approve the amount requested by President Reagan's budget proposal of $201.9 million for fiscal year 1982.

I want to applaud the efforts of this subcommittee for the wisdom it has shown in the past in supporting this project and to commend my many Alabama friends for making the long trip up here to testify on this behalf.

COOSA-ALABAMA WATERWAY SYSTEM AND THE MOBILE HARBOR

PREPARED STATEMENT

I should like to submit, for the record, a prepared statement in support of funding for the Coosa-Alabama Waterway system and the Mobile Harbor. It is a sound investment program.

Senator STENNIS. The statement in support of the Coosa-Alabama Waterway system and the Mobile Harbor will be inserted in the record at this point.

[The statement follows:]

STATEMENT OF SENATOR DENTON OF ALABAMA

Mr. Chairman, I am pleased to appear before your subcommittee to support fiscal 1982 appropriations for the Coosa-Alabama Waterway system and the Mobile Harbor.

In researching our Nation's waterway projects, I was most impressed by this subcommittee's record of support of Alabama and Southeastern waterways.

The efficiency of moving bulk cargo on our inland waterway's is a vital part of our Nation's strength. Not only is energy saved by moving on those waterways, but energy is produced in the form of hydropower.

Even in times of economic stress we must look for new opportunities for beneficial economic return and we must maintain those facilities which are now producing. This is the essence of a sound economic investment program.

The Coosa River project is such an investment. Extension of this waterway will support and assist in expanding the industrial payrolls and job opportunities in northeast Alabama and the Appalachian region of northwest Georgia. I support the provision for $3 million requested by the Corps of Engineers to continue preconstruction planning on the Coosa. I also support the survey funds to study the feasibility of deepening Mobile Harbor and the promising multipurpose Dalton Lake project in Georgia.

The request for operation and maintenance funds has been substantiated and I support provisions for $24.9 million requested for six important elements of the Coosa-Alabama system. Four of these facilities brought a direct return of $9.3 million to the Federal Treasury in 1980. The Alabama River and Mobile Harbor funds support navigation for both domestic and foreign trade.

I applaud the citizens of Alabama for supporting the efforts of President Reagan to reduce Federal spending. The suggestion by representatives of the Coosa-Alabama River Improvement Association to defer construction of two projects and give priority for funding to the navigation projects is a fine example of responsible citizens supporting the President's leadership.

Senator STENNIS. We thank you very much, Senator Denton.

Gentlemen, let me point out, the Tennessee-Tombigbee Waterway Authority, which was organized by the States, has done a monumental job, outstanding in the Nation, toward getting behind this project back when it was floundering, not in motion. And I frankly say that they have made the difference in bringing this splendid enterprise, which will be worth so much to the Nation, forward in such a splendid fashion. And those States are represented here by the outstanding Governors for which we have given a special word of welcome, and Governor James of Alabama is chairman of the authority to which I just referred.

So with great emphasis for their testimony and others, too, I am delighted to recognize now the Governor of Alabama. He is chairman of this fine group. You may present your own testimony and call on such others now as you may have arranged it, Governor.

TENNESSEE-TOMBIGBEE WATERWAY

STATEMENT OF GOV. FOB JAMES OF ALABAMA, CHAIRMAN, TENNESSEE-TOMBIGBEE WATERWAY DEVELOPMENT AUTHORITY

Governor JAMES. Mr. Chairman, I want to say on behalf of all Alabamians, we appreciate our third Senator down in Alabama. I am working on it, Mr. Chairman. I know you understand what I am talking about.

Senator STENNIS. I understand, but I am afraid the others do not understand. I call myself the third Senator from Alabama when they needed a third Senator. [Laughter.]

We always had two good ones. Thank you for that comment.

Governor JAMES. We have with us, Lieutenant Governor Collins from the State of Kentucky. I would like to ask her to present her statement.

Senator STENNIS. Governor Collins, we are delighted you can be here.

STATEMENT OF HON. MARTHA COLLINS, LIEUTENANT GOVERNOR OF KENTUCKY

Governor COLLINS. Thank you, distinguished members of this committee, Senator Huddleston, and our neighbor Senators, Senator Sasser and Senator Mattingly. I really appreciate the opportunity to appear before this committee today to represent Kentucky's continued support for the Tennessee-Tombigbee Waterway project. We are anxiously awaiting the completion of the Tenn-Tom because at that time, our shoppers and our industries will be able to move coal, grain, and other commodities to the Southeast and the eastern gulf at considerably lower transportation costs.

TRANSPORTATION SAVINGS

Last year during one of the congressional hearings, a coal producer in Kentucky testified that he could realize an average of $2.90 per ton savings in transportation costs when the Tenn-Tom becomes available for coal shipment. This economical rate will stimulate the production of coal and alleviate the difficulties of coal producers in competing with foreign suppliers to markets in the Southeast.

Kentucky is the Nation's largest coal producer, and because coal is a key to realizing our country's freedom from OPEC demand, and if we are, in fact, serious about strengthening our national defense and we are serious about being independent of the OPEC demands, then the Tenn-Tom supplies a vital link to establishing energy independence.

The Tenn-Tom will provide Appalachian and western Kentucky coal fields direct access to the Port of Mobile, where State-owned coal-handling facilities are being expanded to accommodate 24 million tons annually.

About 21 million tons of coal are expected to move on the Tenn-Tom the first year after its completion and will help meet the free world demand for coal which is expected to double during this decade.

I have with me a statement from the Western Kentucky Coal Operators Association, which I request be made a part of the record. The association's statement points out the importance of the Tenn-Tom to these producers' ability to compete for coal markets.

Mr. Chairman, we recognize and understand that this committee will be faced with many demands for the scarce Federal fund that will be available next year. However, we request that the importance of the Tennessee-Tombigbee toward increasing the use of coal as a primary energy source be given very careful consideration in the allocation of these funds. And we thank you.

[The statement follows:]

STATEMENT OF STEPHEN JONES, PRESIDENT, WEST KENTUCKY COAL OPERATORS' ASSOCIATION, INC.

Gentlemen, the West Kentucky coal Operators' Association is comprised of small, medium, and large coal producers in the western Kentucky coal field. Our membership represents union represented workers and nonunion workers. Our membership of 91 companies represents approximately 45 percent of the coal production of western Kentucky.

As I am sure each of you are aware, in recent years Midwestern coal has been plagued by marketing problems, as a result of the high sulfur content of our coal. In spite of those problems, we are continually participating in the marketplace, in an effort to sell our product.

In the recent past, two large market areas have continued to grow and will continue in the future to increase. Those areas are the export markets and markets located in the southern region of the United States.

In both of these markets, transportation of our product is a crucial factor. Our primary concern in the transportation of our coal is cost. The completion of the Tennessee-Tombigbee Waterway will facilitate cost-effective transportation of fossil fuels. This will ultimately translate to a savings for the users and for the ratepayers who ultimately use the electricity generated from this coal. The savings as it would relate to export markets, would encourage broadening and increasing the export market as a result of the transportation savings.

If America is to become energy self-sufficient, then we will do so as a result of projects such as this, that encourage increased use of our energy resources.

This association is on record in support of this project.

Senator STENNIS. We thank you very, very much. This is further proof of what I said. The ladies, after all, are running the country. And that is a very valuable statement you have made there, and I think we can use it to good advantage in the debates. Again, we are glad you are here.

Governor James, who would you like to call on next?

Governor JAMES. Governor Alexander of Tennessee.

Senator STENNIS. We are glad to have you, Governor, neighbor, and friend.

STATEMENT OF HON. LAMAR ALEXANDER, GOVERNOR OF TENNESSEE

Governor ALEXANDER. Thank you, Mr. Chairman.

Mr. Chairman, Senator Sasser, whom we are proud of and whose support of the Tennessee-Tombigbee Waterway we appreciate in our State, Senator Huddleston, Senator Mattingly, I appreciate the chance to appear before this Senate committee. I used to be an employee of the Senate in 1967 and 1968, when I worked for Senator Baker who is now the majority leader. And I respect this body and its institutions and its deliberative process. I do not think it makes much sense for me to spend much time going through the reasons why the Tennessee-Tombigbee Waterway is a good idea, because that has been done year after year in a very effective way by you, other members of the committee and people from all over the country. So briefly I would like simply to make three comments about why this year I believe the appropriation which we are discussing deserves the support of the Congress.

The first comment is that the priorities that I have as Governor are, first, that we do whatever we can to raise family incomes in Tennessee. I am not naive enough to believe that a Governor alone or a Senator alone, can do that. But in a State that is 42d in average family incomes we find day after day that the major limit upon our ability to move ahead, progress and give the people the kind of opportunity to build a better life is limited by our financial resources. I am going through a budget period right now where we wish we had more money for teachers' salaries, for mental hospitals, and more money for virtually everything in the budget. Even if we had more taxes we would not have much more money because family incomes are so low in Tennessee. The same is true in the other States that are affected primarily by this project. It is in the country's interest still for the part of the country that has consistently the lowest family incomes to move ahead and catch up with the rest of the Nation, because to the extent we do not, the rest of the country has to help pay the bill and this project has time and time again proven to be an opportunity for a structured economic stimulus in the States in which we are interested and it so happens to be located in the parts of those States that need the most help period.

I think we have come to the conclusion that the Government itself can not pay people's way out of poor economic conditions. The Government can properly help build structures that help people get themselves into a better economic condition. So this project fits the first priority I have as the Governor of Tennessee, which I believe also is the priority of most people in Tennessee.

The second comment I would like to make is that an idle observer in Tennessee might think that this is a project for west Tennessee or even rural west Tennessee. That is not true. It will help rural west Tennessee, which is a part of our State that needs the help, but it helps the entire

State. It especially will help east Tennessee, the most populous part of the State. The Tennessee River runs through Knoxville, on down through east Tennessee, of course, to Alabama before it comes back up through the rest of Tennessee. While we have a hard time keeping everything together in our State because Memphis is closer to Houston than it is to Bristol and Bristol is closer to Camden than it is to Memphis, this particular project has the opportunity to provide help to every part of Tennessee and has the support of each part of our State.

Third, and finally, it is unusual for me to have the opportunity to testify before a Senate committee, and if I were asked what I thought were the most important things before the Senate today, I would not say the Tennessee-Tombigbee Waterway, I would say the most important thing, if I may respectfully say so, is for the Senate and the House to adopt President Reagan's proposals to limit spending, reduce taxes, and, hopefully, get the economy back in shape.

Now, most of the time when I say that, I have to bite the bullet and admit that that will cut out some projects in Tennessee. I think it is a strong endorsement for the Tennessee-Tombigbee's completion that President Reagan, in a time of extreme financial stringency, even though he comes from another part of the United States, has looked at this project's history and concluded that it deserves to be in this year's budget in such a significant amount. That carries a special weight, I think, this year, and I am proud to add my support to it.

So I appreciate the chance to be here. This is an important project for our State. I am especially pleased I believe Mr. John Waters, Mr. Herman Ewing of Memphis, Mr. Emmitt Yeiser of Savannah, all three members of our development authority are here in this room and have worked hard, we appreciate the work that the members of the Senate have done and the House have done in the past to bring this project as far as it has and we support your efforts wholeheartedly.

Thank you.

[The statement follows:]

STATEMENT OF HON. LAMAR ALEXANDER, GOVERNOR OF TENNESSEE

Mr. Chairman, I appreciate the opportunity to join my fellow Governors of the authority here today in support of the Tennessee-Tombigbee Waterway.

Tennesseans have supported the Tenn-Tom for generations. Our State joined the authority soon after it was established in 1958 to help promote the development of the waterway. After so many years of delays and setbacks, the dream of this project and its economic opportunities is beginning to come true.

When completed, the Tennessee-Tombigbee will provide our State and others a more direct access to the Gulf of Mexico. This shorter barge route will save as much as 832 miles in distance traveled for some shipments.

These distances of travel saved will not only reduce transportation costs for those commodities shipped on the Tenn-Tom but will conserve energy, too. About 9.3 millions of gallons of fuel are expected to be saved as a result of shipping on the Tenn-Tom during the first year of operation alone.

A few have questioned the importance of the Tenn-Tom as a transportation link. We believe you only have to study its unique geographical location and its relationship to the already developed inland waterway system to realize the importance and potential of the Tennessee-Tombigbee.

Other waterways were questioned by a few detractors when they were being built. Waterways, however, have proven that projections of potential commerce were grossly understated at the time the project was being built. For example, commerce shipped on the Tennessee River in 1978 exceeded 31 million tons or twice what was originally predicted in 1948 when it was opened to navigation. History will also demonstrate that the commerce on the Tenn-Tom will greatly exceed what is now predicted.

I am personally pleased that President Reagan has become the sixth consecutive President to support Tenn-Tom. This is especially significant in a time of Federal spending reductions.

I do wish to emphasize that the President, through his overall budget cuts, has taken a giant step in the right direction. The best thing the President and the Congress can do for Tennessee families is to reduce taxes, cut spending, and lower interest rates. All individual projects must be weighed against this overriding economic priority. We all must be willing to take our share of any reductions.

Even so, the Tenn-Tom has been recommended for substantial funding in the President's budget for next year. I support precisely that level of funding for the new fiscal year.

TENNESSEE-TOMBIGBEE WATERWAY

STATEMENT OF HON. WILLIAM WINTER, GOVERNOR OF MISSISSIPPI

Senator STENNIS. Thank you very much, Governor. All right, Governor James.

Governor JAMES. I would like to call next on Governor Winter of Mississippi.

Senator STENNIS. It is a privilege and it is also with pride that I recognize the Governor of Mississippi, Gov. William Winter. I know you have your heart in this subject. We are delighted to have you here.

Governor WINTER. Thank you, Mr. Chairman, and your distinguished colleagues, I appreciate very much the privilege of appearing before the subcommittee today. I especially appreciate the privilege of appearing here with you in the Chair, and I, when I had the privilege of serving as your legislative assistant several years ago, I did not dream I would be coming here today as Governor of the State of Mississippi. I do consider it a very great privilege to represent my State and to come here in the company of my distinguished colleagues, Governor Alexander, Governor James, and Lieutenant Governor Collins in support of the Tennessee-Tombigbee Waterway project.

INTRODUCTION OF ASSOCIATES

I do not come alone. As a matter of fact, I have a substantial company of my and your fellow Mississippians here, here for the same reason that I am here. That is to express their interest in the completion of this project. I would like to, without calling all of their names, I would like to present them. First of all, I would like to have Mr. Fred Bush, Mr. Jim Heinz, Mr. John Stanley, Mr. Bennie Turner, and Mr. Ray Thornton stand. They represent the State of Mississippi on the authority. And I would also like to have stand, a fairly considerable number of members of the board of the Tombigbee River Valley Water Management District who are also here. These gentlemen represent the local governmental body who are actually responsible and sponsors of the project.

IMPACT OF PROJECT TERMINATION

Mr. Chairman, I join with everything that Governor Alexander, Governor Collins, Senator Denton, and all who have preceded me here have said. The case for the completion of the Tennessee-Tombigbee project has been well established. I want to talk for just a minute or two about what it means not to complete the project. I do not know how many members of the subcommittee have actually done what I have done, and that has been to fly over that area, from Yellow Creek on the Tennessee River to Columbus at the headquarters of the now almost completed Tombigbee project to that point. Some 130 miles of raw earth, a ditch, piles of dirt as far as you can see, the people of that area have moved, most of them willingly and voluntarily, giving up homes, farms, stores, schools, and communities with the expectation that there would be a better day, that there would be a better way of life as a result of the completion of the waterway. The State of Mississippi alone has already spent or commitited $150 million of its meager highway funds to relocate highways and bridges over the Tenn-Tom. The counties of that area, in this depressed area of northeast Mississippi, the counties of that area have committed $4 million of their funds to relocate local roads. Railroads have been abandoned, whole communities have been uprooted and yet, on the other hand, in the expectation that these results that we have predicted for the completion of the Tennessee-Tombigbee would come to pass, we now have in place and in the process of construction approximately $1 billion in industrial development based on the expectations that the waterway was going to be completed. More than a thousand industrial jobs have already come into the area.

This is a commitment, it seems to me, that a U.S. Government has to the people of our area, and we have responded in good faith. It has been a partnership proposition, the Federal Government working with the States and with the local entities of government to build a great project that will benefit not just that area, but will benefit the whole country. And I do not think these folks can go back, Mr. Chairman, to Tishomingo County, and others, back there where so many people have already given up a life and explain for one reason or another this waterway is not going to be completed. It would be an environmental disaster and it would cost just about as much money not to finish it as it would to finish it. So the plea I make is that at this stage of completion, there is no way but to go forward and to create here the basis whereby economic development, not just of my area, Mississippi, and Governor James' State of Alabama, and Governor Alexander's State of Tennessee, the State of Kentucky, but the whole country will be the beneficiary of the completion of this project, and I hope that this subcommittee will continue to recommend the funding of the project in accordance with the recommendations that President Reagan has made to the Congress. I believe that it is in the national interest and one that every judgment will support as one worthy of your consideration.

Mr. Chairman, I have a statement that I would like to leave to be inserted in the record, along with a letter I wrote to Senator Hatfield concerning the Tenn-Tom project.

Senator STENNIS. Without objection, that will be inserted.

[The statement and letter follow:]

STATEMENT OF WILLIAM F. WINTER, GOVERNOR OF MISSISSIPPI

You have heard and will hear much testimony as to what the completion of the Tennessee-Tombigbee Waterway project will mean to the country. I support fully the predictions of very substantial economic benefits that will be derived from a completed waterway.

I desire, however, to emphasize what not completing the project will mean. I want you to consider the environmental catastrophe that would result from an abandonment of this undertaking at this stage of its completion.

1. A scar on the land.

The present state of construction has left a massive scar on the land nearly one hundred miles in length. In its present state, this land could not be utilized for any other productive purpose, and it would also present a continual visual blight. Nature reserves and wildlife parks which are part of the complete plan for the waterway are not available as yet, so that the present scar would be almost totally destructive of wildlife.

2. Costs to federal and state government.

A preliminary, tentative estimate of the cost of restoring the current construction area is something more than $300 million. If experience is any guide, this would prove to be an optimistic estimate. There can be little doubt that total restoration costs would approximate the estimated remaining costs of construction.

This estimate does not take into consideration the virtually insoluable problem of the disposition of the title to the land acquired for the project.

Costs of state and local government. The state of Mississippi has already spent or committed $150 million in bridge relocation for the canal. Overall road relocation costs already incurred by state and local government add $4 million to this figure. Virtually all of these costs would become a virtually useless expenditure if the project is abandoned.

3. Private investment loss.

More than $800 million has been privately invested in Mississippi industrial and commercial facilities in anticipation of completion of the project. More than one thousand jobs are involved. It is impossible to accurately estimate how much of this can be recovered, but there would obviously be heavy losses and liabilities. Railroad rehabilitation has been involved, seperate from normal project relocation.

4. Summary.

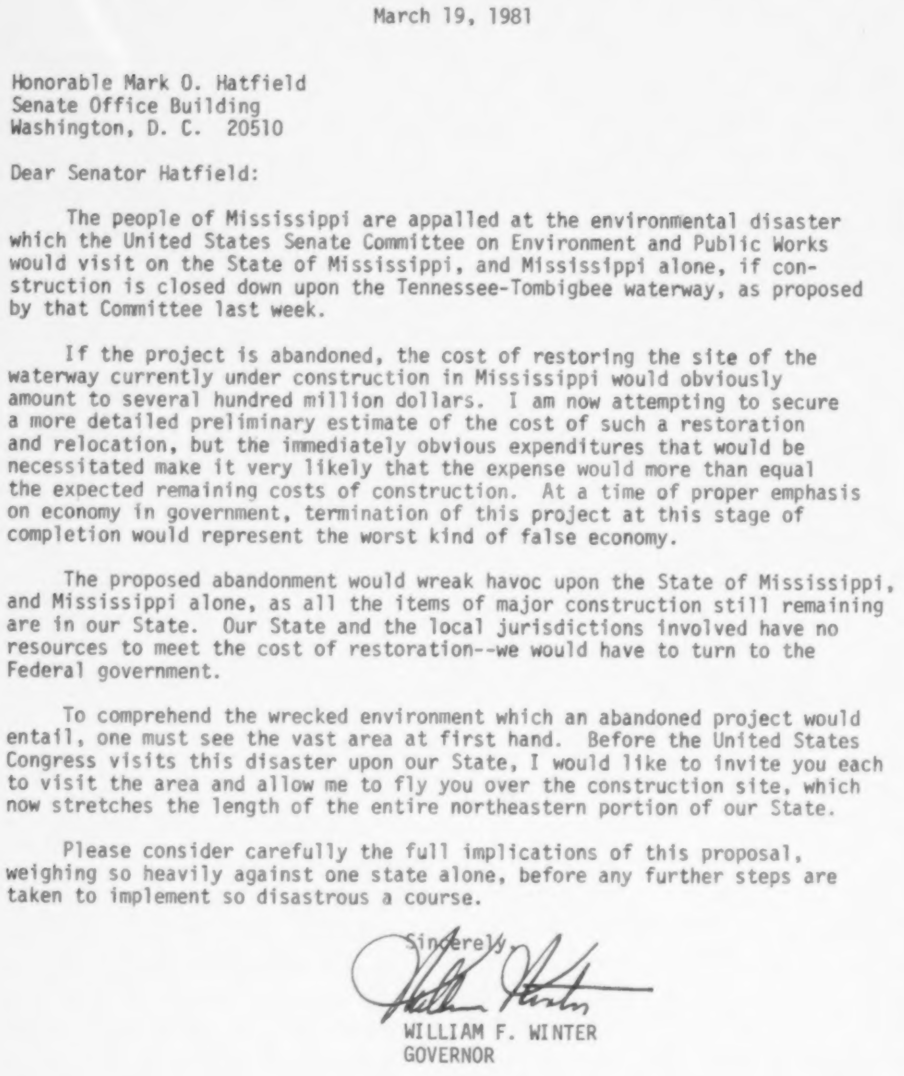
I have dwelled on the catastrophe which threatens us in Mississippi because Mississippi would be in the unfortunate position of bearing almost the entire brunt fo this ill-founded proposal of abandonment.

(Kentucky and Tennessee already enjoy the use of the thriving Tennessee River waterway system. Their loss from the abandonment of the Tenn-Tom is in potential use, although some of the industrial development in those states has resulted from anticipation of use of the Tenn-Tom in the future.) The Alabama portion of the Tenn-Tom is complete, but as an emascualted project it would provide only five percent of the projected navigation benefits of the full-scale Tenn-Tom.

We have photographs of the area under construction that presumably would be abandoned to nature by the plan of the Senate committee, but this is a situation impossible to fully visualize without actual personal inspection. (I was pleased that a number of members of the House committee had an opportunity to fly over the construction site this past Friday.) For members who have not yet had an opportunity, I would like to personally invite all members of this committee and its staff to come to Mississippi to allow me to personally conduct you in a flight over the nearly one hundred miles of land under construction. Only then can you fully realize the problem we would face.

Obviously, the only reasonable solution to this problem is to complete the project as soon as possible, and for private business and all agencies of government to join in promoting the fullest possible utilization. One example of the beneficial by-products of the project that offers great hope for the future of our State is the productive employment of black workers, drawn primarily from underemployed rural residents, in the construction work. The approximately 1,000 black construction workers on the Tenn-Tom will be the core of a large segment of skilled minority employees in the industries and commercial enterprises which will be located on the waterway. During the last quarter of 1980, 30% of the man-hours worked were provided by black construction workers. They symbolize greater opportunities for all of the people of Mississippi if we can avoid the currently threatened catastrophe of a shutdown of the project.

LETTER FROM WILLIAM F. WINTER, GOVERNOR OF MISSISSIPPI



March 19, 1981

Honorable Mark O. Hatfield
Senate Office Building
Washington, D. C. 20510

Dear Senator Hatfield:

The people of Mississippi are appalled at the environmental disaster which the United States Senate Committee on Environment and Public Works would visit on the State of Mississippi, and Mississippi alone, if construction is closed down upon the Tennessee-Tombigbee waterway, as proposed by that Committee last week.

If the project is abandoned, the cost of restoring the site of the waterway currently under construction in Mississippi would obviously amount to several hundred million dollars. I am now attempting to secure a more detailed preliminary estimate of the cost of such a restoration and relocation, but the immediately obvious expenditures that would be necessitated make it very likely that the expense would more than equal the expected remaining costs of construction. At a time of proper emphasis on economy in government, termination of this project at this stage of completion would represent the worst kind of false economy.

The proposed abandonment would wreak havoc upon the State of Mississippi, and Mississippi alone, as all the items of major construction still remaining are in our State. Our State and the local jurisdictions involved have no resources to meet the cost of restoration--we would have to turn to the Federal government.

To comprehend the wrecked environment which an abandoned project would entail, one must see the vast area at first hand. Before the United States Congress visits this disaster upon our State, I would like to invite you each to visit the area and allow me to fly you over the construction site, which now stretches the length of the entire northeastern portion of our State.

Please consider carefully the full implications of this proposal, weighing so heavily against one state alone, before any further steps are taken to implement so disastrous a course.

Sincerely,

WILLIAM F. WINTER
GOVERNOR

STATEMENT OF HON. MACK MATTINGLY, U.S. SENATOR FROM GEORGIA

Senator STENNIS. That is a splendid statement and useful, too.

Governor, may I recognize Senator Mattingly now, from Georgia, who has a very fine interest in this project? He has a brief statement.

Senator MATTINGLY. First let me say we have five people here from Georgia today. Mr. Hunter, Mr. Dudley, Mr. Moody, Mr. Collins, and Mr. Willingham, who are here on behalf of another project. I am certain they also appreciate the Tennessee-Tombigbee project. As everyone is aware, this administration stands for reindustrialization of the Nation and in doing so, we must strike a proper balance between the public and private sectors. So far I believe the administration is on a proper course. Water projects, such as those before this committee today, have always played an integral part in the public contribution to the progress of our country. I think we must continue to support those projects that are cost effective and benefit our country as a whole. Projects such as those being discussed here today, however, must always be willing, in times such as these, to bear their fair share of not only budget restraint, but scrutiny and justification.

It is for that reason that I think I can point to you gentlemen here today and other groups supporting the Tennessee-Tombigbee project with pride. These hearings today will more clearly define the justification for your projects and especially by the leadership array that is here. I would just like to welcome you and commend you for your efforts on behalf of these projects.

Thank you, Mr. Chairman.

Senator STENNIS. Thank you, Senator, very much. Senator Mattingly is one of those who just got here as a result of November the fourth. You see how fast he is learning.

Governor James.

STATEMENT OF HON. FOB JAMES, GOVERNOR OF ALABAMA

Governor JAMES. Thank you, Mr. Chairman, Senator Mattingly. I think the subject has been covered well. I would like to reemphasize what you, Mr. Chairman, Senator Mattingly, and Governor Alexander pointed out, that every expenditure at the Federal level, this holds true at the State level, is under close scrutiny. I think this was a mandate of the last year's election, and I cannot help but think the President, his staff worked diligently to set priorities, saw fit and believed it would be in the best interest of this country to finish this project. You might say why when there is such a broad expanse of decisions to be made affecting every facet of life in the United States.

I guess that great consistency lies in the knowledge that America must retool, that our capital resources must be revitalized and what we have is a transportation system, running from Montana to Pennsylvania, across the Great Lakes and really tying in the industrial heartland, agricultural heartland of this country with the Gulf of Mexico and from an economic, military point of view, I think that is why the President opted to include this project in his budget. All of this has been said, Mr. Chairman. I am certainly hopeful that the U.S. Senate will see that everything goes according to the President's budget.

PREPARED STATEMENT

I have a more detailed statement which I have submitted for inclusion in the record of this hearing.

[The statement follows:]

STATEMENT OF FOB JAMES, GOVERNOR OF ALABAMA

Mr. Chairman and Committee members, it is a privilege for me to appear before you today as Governor of Alabama and also as Chairman of the Tennessee-Tombigbee Waterway Development Authority.

First, I want to express the deep appreciation of the Authority and the citizens that we at this table represent for your continuing strong support for the Tenn-Tom. Without your support, we could not report to you today of the excellent progress being made toward completion of the waterway.

As you know, construction has passed the mid-way point. The waterway will be nearly two-thirds completed by the end of this fiscal year.

The last installation, Lock E, has just been awarded at a cost of nearly $2 million less than the Government cost estimate. Competitive bidding of this kind has been more the general rule than the exception for the Tenn-Tom.

Now all ten locks and dams are under contract as well as all of the excavation work in the Divide Cut section of the project. Nearly $1.2 billion of contracts are now underway or completed, leaving about $250 million of work remaining to be started. I mention this because I believe it is an excellent indication of just how far along the Tenn-Tom is toward completion.

The southern 115 miles of the waterway are now opened to limited navigation. It is being used, too. Over five million bushels of grain have been shipped although this portion of the waterway is not officially open for navigation.

However, the Tenn-Tom will be of little importance as a transportation artery until it is completed and becomes a through waterway. Then some fourteen states will be able to realize as much as $121 million in savings in transportation costs each year. The waterway is approaching two-thirds completion. Already 74 percent of the funding has been committed. To stop at this point would be a waste of the already spent funds.

Some states, such as Illinois, will realize more benefits from the Tenn-Tom than some of the state members represented here today. The widespread impact of the Tenn-Tom and its accessibility to potential users throughout Mid-America make it truly a project of national need and importance.

As Governor of Alabama, I am pleased to inform you that my state is preparing for the completion of Tenn-Tom. Last fall, I approved a $75 million expansion [illegible]he state docks facilities at Mobile. These plans are in addition to a $20 million expansion already underway. Much of the commerce shipped on the Tenn-Tom is expected to originate or terminate at the Port of Mobile. We plan to be ready for this economic growth opportunity.

My state has also met its obligations to the construction of the waterway. All the necessary highway bridge relocations have been accomplished.

Mr. Chairman, we realize the difficult decisions that this Committee and the Congress must make to hold down Federal spending. We must curb inflation and get our economy back on track.

Given the need to hold down the Federal budget, we are not requesting a specific level of funding for the Tenn-Tom for next year. Instead, we request that you give the waterway high priority in the allocation of funds within the overall budget constraints imposed on this Committee--as you have done so in the past.

Thank you.

Senator STENNIS. Governor, again, we certainly thank you and all of you for being here and for this strong support. We have had a workhorse on our subcommittee for several years here in the Senate, Senator Huddleston from Kentucky. We are leaving the impression with you that we are working mighty hard in the Senate and that is what we want to do. He has something he has got to do, too.

Governor, may I recognize Senator Huddleston?

STATEMENT OF HON. WALTER HUDDLESTON, U.S. SENATOR FROM KENTUCKY

Senator HUDDLESTON. Thank you very much, Mr. Chairman. I was delighted our distinguished Lieutenant Governor, the Honorable Martha Layne Collins, was part of this panel before us. She is a very articulate and capable spokesman for Kentucky. She has already outlined the value that we place upon the completion of the Tennessee-Tombigbee Waterway project. We think Kentucky has a particular interest in this waterway and that interest extends, of course, far beyond our borders and to the entire Nation.

Of prime importance to Kentucky and to the Ohio Valley is the role that the Tenn-Tom will play in our future economic growth. By using the alternate Tenn-Tom route, barge shipments to and from western Kentucky will be able to save 400 miles to eastern gulf ports. It is estimated that the 42 coal-producing counties in Kentucky ship about 85 percent of that coal out of our State and it certainly can be moved at a greater savings by using the shorter and cheaper Tenn-Tom route.

PORT DEVELOPMENT ACTIVITIES

New port facilities for handling the coal have already been constructed, including the multimillion dollar facility at Eddyville on Lake Barkley, which is already known as the gateway to the Tenn-Tom for western Kentucky coal fields. Approximately 2½ million tons of Kentucky coal will be shipped at a savings of up to $2.57 per ton on the waterway the first year.

It is obvious that the Tenn-Tom will stimulate worldwide use of Kentucky coal. With over 90 billion tons of demonstrated reserves of coal in Kentucky and our neighboring State of Illinois, we have plenty to help offset the high cost of imported oil.

Careful planning to take advantage of the unlimited market opportunities offered via Tenn-Tom Waterway has already been initiated in Kentucky. A foreign trade zone has been established to allow storage and manufacture of goods in a duty-free area and a fleeting center to facilitate the use of the Tenn-Tom is being established at the confluence of the Ohio, Tennessee, and Cumberland Rivers. So, in view of the critical needs of our transportation system, I really do not see how much opposition has been generated against the Tenn-Tom Waterway. All the project proposes to do is try to relieve this ailing transportation system that shames us all when compared to the finely honed efficiency of transportation in such areas as Great Britain, Europe, and Japan.

Imagine the spiraling need for what the United States has to offer—coal, food, manufactured items, and especially food. Our transportation system must grow to meet the challenge of exporting to meet those needs. America, as the breadbasket of the world, can become the OPEC of food production provided we can develop adequate transportation to world markets. Already soybeans are being shipped on Tenn-Tom and grain shipments are projected. So because of the economic growth and development it promises, I ask for continued support for funds for the Tennessee-Tombigbee Waterway. There are several other Kentuckians here, Mr. Chairman, who have been interested in this project from the very beginning and have been working hard for it. I think the point has been made that even in these times of strict budgetary restraint, the administration has seen fit to include adequate funding to keep this project on track. That ought to be good enough for us here in the Senate and the House of Representatives.

So I am hopeful that we will be able to withstand the attacks on this project. They are not new to us. We have had this to contend with for several years. We have been able, under the very able and diligent leadership of our distinguished presiding chairman here today, Senator Stennis, to beat back those attacks and keep the project going. It would be a travesty in my judgment, besides a tremendous waste of taxpayers' money, to do anything now that would eliminate this project from its final completion.

Thank you, Mr. Chairman.

Senator STENNIS. Thank you, Senator.

Governor James, do you have anything further?

Governor JAMES. Mr. Chairman, we have with us the members and staff of the Tennessee-Tombigbee Waterway Development Authority. They work hard and have come a long way. Can I recognize them as a group by asking those ladies and gentlemen to stand.

Senator STENNIS. You can call the names out if you wish.

Governor JAMES. I would like to ask them as a group to stand. Glover Wilkins, administrator; Don Waldon, deputy administrator; Darlene Scogins, assistant administrator and director of public affairs; and Pat Brooks, associate director of public affairs.

Senator STENNIS. We appreciate the presence of all of you here. It means something to have you here. Glad to recognize you.

Governor JAMES. I will recognize and introduce Glover Wilkins who runs this show.

Senator STENNIS. Glover, we are delighted to have you here. You and I share the citizenship from the same State. Would you yield to me a second? Senator Heflin has come in.

ALABAMA WATER RESOURCE PROJECTS

STATEMENT OF HON. HOWELL T. HEFLIN, U.S. SENATOR FROM ALABAMA

Senator HEFLIN. Mr. Chairman, it is a pleasure to be here before you and to testify on behalf of the development of Alabama's vast water resources. I have prepared statements dealing with each of the Alabama waterway projects; namely, the Tennessee-Tombigbee, the Coosa-Alabama, the Black-Warrior-Tombigbee, the Mobile Harbor, and some general ones, including the Apalachicola-Chattahoochee-Flint River system. I would like these statements to be made a part of the record.

TENNESSEE-TOMBIGBEE WATERWAY PROJECT

Mr. Chairman, seeing you presiding here today and knowing how you have worked to make the Tennessee-Tombigbee Waterway a reality, I do not know if all the people from Mississippi realize that you are the most vigorous fighter that I have ever seen in advocating any cause. I told a story and related it at a breakfast this morning to those present. I think it would be appropriate to tell you.

They say that Moses was being chased by the Egyptians out of Egypt and was headed toward the Red Sea. When Moses reached the Red Sea he did not know how to get across. So he called on his staff. At that time, his staff was about as prominent as it is here in the Senate. So he called up his staff, he called up his boatman and said, "Now, how about it, can we get across the Red Sea by building boats?"

And the boatman says, "Well now, on my pontoon boat approach it would take about 8 or 10 hours."

Moses said, "I believe the Egyptians will be there by then." Then Moses called up his bridgeman and he could not solve the problem of getting across the Red Sea ahead of the pursuing Egyptians.

Finally, he got down to his press secretary. He called him in and wanted to have some suggestions and the press secretary said, "Well, Mr. Moses, you might put one foot out there on the Red Sea and call on the Lord and have him to part the Red Sea."

And he said, "We will go across, then the Egyptians will follow us," and he says, "The waters will come in and drown them all."

Moses said, "That is a good idea. I believe I will call on the Lord."

The press secretary says, "I want to tell you, Mr. Moses, if you succeed in doing that, I guarantee you two chapters in the Old Testament." [Laughter.]

So I believe if there is anybody that can part the Red Sea, it is Senator John Stennis of Mississippi. I remember in our Tennessee-Tombigbee battles last year that I had to hide out from him. He was after me every minute of the day. Each day he gave me a new job to do, to see this Senator, to get this Senator active. I think we averaged about seven conferences a day for about a month. You did a great job, Senator Stennis. I tell you, I do not know how we would ever get along without you. I got to talk to you, and I have to talk for the record and put something in here for some of these infidels and nonbelievers that have not come through yet, that we have to get the Tennessee-Tombigbee message—the gospel to them. I was talking about the Tennessee-Tombigbee to a group of educators back in Alabama and Dr. John Volcker who is chancellor of the University of Alabama said, "Do you know Thomas Jefferson recommended the Tennessee-Tombigbee Waterway." I said, "No." Dr. Volcker is quite a student of Jefferson. So he sent me a photostatic copy of a book that Jefferson had written back in about 1812 in which he advocated the Tennessee-Tombigbee being built then.

I know the many witnesses here today will testify to its great value to the area, to the Nation. Because of the energy situation alone, we need the Tennessee-Tombigbee Waterway.

PROJECT IMPACTS

I stop and think now, what would happen if they terminated this project. As Governor Winter has so accurately stated, it would cost almost as much money to terminate it as it would to complete it. But then the environmentalists would come along and they would say, "There is that Columbus-Demopolis snail darter who has gained four more scales since he has been in a slightly new environment and we might have to hold up the covering up of the ditch because of the Columbus-Demopolis snail darter being on the endangered species list."

Then I begin to think about the Tombigbee wiggleworm that probably developed since construction has begun. We would have all sorts of problems, besides the money, in coping with situations of this type. You know, I think if the environmentalists who have opposed the project would look at it, they would see if there was an insult to the area, to the environment, it has already occurred. Now, we have to go ahead and complete it in accordance with the plans of the Corps of Engineers where it will do no damage to the environment in the long run. You know when you dig a grave, you can not always put the same amount of dirt back in. It is mounded up, and then it goes down after you fill it up. It would take 20 years to fill up the divide cut. It would be mounded up and then all of the depressions that obviously would take place. I do not believe these have been thought through by opponents of the project. In fact, those railroad trestles that would cross it, they are liable to be going up and down like a roller coaster.

If we stopped construction of the Tennessee-Tombigbee Canal, it would become known as the Congress Ditch. We would not want to call it the Reagan Ditch. That would be getting into partisan politics, but the Congress Ditch would be there with all of its problems and talk about the editorials that would be written about the Congress Ditch and the folly of the Congress in terminating a billion dollar investment. I think we ought to consider the consequences of that.

It is a real pleasure to be with you. I salute you as my champion, my field marshal, my general. I stand ready at your command. Thank you. [Applause.]

Senator STENNIS. Senator, you are always an effective speaker. We want our friends to know this was not rehearsed.

You made a real contribution here. If I have any virtues, I know how to pick my helper, Senator Huddleston here as among others.

[The statement follows:]

Statement of Senator Howell T. Heflin of Alabama

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

IT IS MORE THAN AN ORDINARY PLEASURE TO AGAIN JOIN WITH A VERY DISTINGUISHED ARRAY OF MY CONGRESSIONAL COLLEAGUES AND FELLOW ALABAMIANS IN SUPPORT OF THE APPROPRIATION OF FUNDS FOR THE CONTINUED DEVELOPMENT OF THE WATER RESOURCES OF ALABAMA.

MY REMARKS WILL BE BRIEF INASMUCH AS THERE ARE SEVERAL DELEGATIONS HERE TODAY TO PRESENT THEIR CASES TO YOU IN BEHALF OF THEIR RESPECTIVE WATERWAY SYSTEMS. THOSE WHO ARE HERE TODAY ARE FRIENDS OF MINE. THEY HAVE BEEN OUTSTANDING IN THEIR WORK TO SEE THAT THE PEOPLE OF ALABAMA WILL, IN FACT, REALIZE AND BENEFIT FROM THE VAST POTENTIAL ALABAMA'S RIVERS AND STREAMS. I WARMLY COMMEND THEIR TESTIMONIES TO YOU.

MR. CHAIRMAN, WATER IS ALABAMA'S RICHEST AND MOST ABUNDANT NATURAL ASSET. MANY, IF NOT MOST, OF THE PROJECTS FOR WHICH WE ARE SEEKING FUNDS WILL SERVE SEVERAL PURPOSES AT ONCE. MORE AND BETTER ECONOMIC OPPORTUNITIES, MORE AND BETTER PUBLIC HEALTH AND SAFETY, MORE JOBS AND A HIGHER STANDARD OF LIVING --- INDEED, THE OVERALL QUALITY OF LIFE IN OUR STATE AND ELSEWHERE --- WILL BE ENHANCED IF WE FUND THESE PROJECTS AND BRING THEM TO COMPLETE FRUITION.

WHEN RIVERS AND HARBORS ARE DEVELOPED, THIS CREATES THE MEANS AND INCENTIVE FOR ENTIRE SECTIONS OF OUR NATION TO MOVE FORWARD. THE PEOPLE OF ALABAMA LONG AGO RECOGNIZED THE MERITS OF THE COMPREHENSIVE DEVELOPMENT OF OUR STATE'S WATER RESOURCES AND THEY HAVE ALREADY ENJOYED MANY OF THE BENEFICIAL EFFECTS OF THE WISE DEVELOPMENT AND MANAGEMENT OF THEIR RIVERS, STREAMS AND PORTS. BUT, THEY WILL NOT BE CONTENT TO STOP NOW IN MID-STREAM.

WE LOOK TO THE FUTURE. BUT WE CHART OUR COURSE BY THE PAST. AND WHEN WE LOOK BACK TO THE GROWTH OF OUR STATE FROM PARTIAL WATER RESOURCE DEVELOPMENT, IT COMES TO US HOW VAST INDEED ARE THE POSSIBILITIES THAT STILL LIE AHEAD WHEN OUR WATERWAYS ARE FULLY DEVELOPED.

WE ARE MOST GRATEFUL TO THIS COMMITTEE FOR ITS INTEREST AND UNDERSTANDING OF THE FULL DEVELOPMENT OF ALABAMA'S WATER RESOURCES. YOU HAVE BEEN OUR FRIEND. WITH YOUR CONTINUED HELP, ALABAMA WILL GAIN HER RIGHTFUL PLACE AMONG THE STATES AND WILL BENEFIT FULLY FROM HER RESOURCES.

TENNESSEE-TOMBIGBEE WATERWAY

MR. CHAIRMAN, I STRONGLY COMMEND TO YOU THE BUDGET REQUEST FOR $201,000,000 IN FUNDS TO CONTINUE CONSTRUCTION OF THE GREAT TENNESSEE-TOMBIGBEE WATERWAY.

I HAVE BEEN AND I CONTINUE TO BE A STAUNCH SUPPORTER OF THE TENNESSEE-TOMBIGBEE WATERWAY. WITH ALL THE FORCE AND EARNESTNESS AT MY COMMAND, I WANT TO REGISTER MY CONVICTION THAT NO ONE PROJECT HOLDS SO MUCH PROMISE FOR THE PEOPLE OF OUR NATION.

A FORMER CHAIRMAN OF THE TENNESSEE VALLEY AUTHORITY, THE LATE GORDON CLAPP ONCE MADE THE FOLLOWING STATEMENT ABOUT TVA:

> "TVA IS CONTROVERSIAL BECAUSE IT IS CONSEQUENTIAL..."

TO MY WAY OF THINKING -- AND I BELIEVE A MAJORITY OF THOSE AT THIS HEARING TODAY WILL AGREE -- THOSE REFLECTIVE WORDS OF MR. CLAPP ALSO APPLY TO THE TENNESSEE-TOMBIGBEE WATERWAY.

THE CAMPAIGN AGAINST THE PROJECT IS NOT NEW. IT HAS LONG BEEN EMESHED IN POLITICS AND SUBJECTED TO VICIOUS ATTACKS. THESE ATTACKS HAVE BEEN BASED ON MISLEADING DATA, FAULTY REASONING AND

UNSUPPORTED DOGMA. THE CAMPAIGN HAS BEEN WIDESPREAD, RANGING FROM LOBBYING IN THE HALLS OF CONGRESS DOWN TO THE GRASSROOTS. WITH ALL THE MONEY AND TALENT THAT HAS BEEN POURED INTO THE EFFORT TO DISTORT THE TRUE BENEFITS ABOUT THE TENNESSEE-TOMBIGBEE WATERWAY, IT IS SMALL WONDER THAT DOUBT HAS BEEN SOWED IN THE MINDS OF MANY MEMBERS OF CONGRESS CONCERNING THE PROJECT.

HAVING BEEN SO DIRECTLY INVOLVED IN THE MOST RECENT FIGHTS IN CONGRESS FOR FUNDS FOR THE TENNESSEE-TOMBIGBEE WATERWAY, THERE IS ABSOLUTELY NO DOUBT IN MY MIND THAT THE PROJECT -- WHEN COMPLETED -- WILL STAND AS A MONUMENT TO THE PROGRESS OF THE ENTIRE NATION.

EVEN NOW WHEN THE PEOPLE OF OUR NATION ARE CRYING OUT FOR PROGRAMS TO STRENGTHEN THEIR ENTERPRISE, OPPONENTS OF THE TENNESSEE-TOMBIGBEE WATERWAY HAVE RENEWED THEIR CAMPAIGN TO BECLOUD THE IMPORTANCE OF THE PROJECT TO FUTURE GROWTH AND PROGRESS OF OUR NATION. THE SINGLE, LETHAL OBJECTIVE OF THE DIE-HARD OPPOSITION TO THE TENNESSEE-TOMBIGBEE WATERWAY IS TO DESTROY THE PROJECT. THAT IS THE BOTTOM LINE.

THERE IS NO DOUBT IN MY MIND THAT MANY MEMBERS OF THE CONGRESS HAVE BEEN THE RECIPIENTS OF SOME AWFULLY BAD ADVICE REGARDING THE FEASIBILITY OF THE TENNESSEE-TOMBIGBEE WATERWAY. I DO NOT QUESTION THE SINCERITY OF MOST OF THE CRITICS OF THIS WATERWAY, BUT I DO QUESTION THEIR JUDGMENT.

OTHERS FAR MORE ELOQUENT THAN I WILL PRESENT TO YOU TODAY THE IRON-CLAD CASE FOR APPROVING THE FUNDS REQUESTED BY PRESIDENT REAGAN FOR THE TENNESSEE-TOMBIGBEE WATERWAY. I ONLY ASK THAT WHEN YOU MEET TO MARK UP THE PUBLIC WORKS MONEY BILL THAT YOU FILL YOUR MINDS AND IMAGINATIONS WITH THE WONDROUS BENEFITS AND POSSIBILITIES THAT AWAIT THE ENTIRE NATION WITH THE COMPLETION OF THE PROJECT. I THINK YOU WILL FIND THEM TO BE INCALCULABLE.

MR. CHAIRMAN, I AM HAPPY TO HAVE THE OPPORTUNITY TO AGAIN SPEAK IN SUPPORT OF FUNDS FOR THE CONTINUED DEVELOPMENT OF THE COOSA-ALABAMA WATERWAY.

I SHOULD LIKE TO POINT OUT THAT THE REQUEST FOR FUNDS FOR THE COOSA-ALABAMA RIVER SYSTEM INCLUDES PROJECTS LOCATED EITHER IN ALABAMA OR IN OUR SISTER STATE OF GEORGIA WHERE THE HEADWATERS OF THIS MIGHTY, RIVER SYSTEM HAVE THEIR GENESIS.

THE LARGEST SINGLE BUDGET EXPENDITURE PROPOSED FOR THE NEXT FISCAL YEAR MAY BE FOUND UNDER THE HEADING OF "OPERATION AND MAINTENACE." THEY ARE:

1. $10,309,000 FOR OPERATION AND MAINTENANCE ACTIVITIES BY THE U.S. ARMY ENGINEERS ON THE ALABAM RIVER CHANNEL, AT THE MILLERS FERRY LOCK AND DAM AND AT THE JONES BLUFF LOCK AND DAM. THESE FUNDS ARE NEEDED SO THAT NAVIGATION MAY BE CARRIED ON IN THIS PARTICULAR REACH OF THE RIVER SYSTEM. SPOKESMEN FOR THE COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION WILL REQUEST ADDITIONAL OPERATION AND MAINTENANCE MONIES FOR THESE PROJECTS WHICH WILL BE THE FULL CAPABILITY OF THE ARMY ENGINEERS. I URGE THE COMMITTEE'S CAREFUL CONSIDERATION OF THEIR REQUEST.

2. $6,060,900 TO OPERATE AND MAINTAIN THE POWER OPERATIONS LOCATED AT ALLATOONA LAKE, GEORGIA AND CARTERS LAKE, GEORGIA. THESE REQUESTS, I BELIEVE, ARE RIGHT IN LINE WITH THE ADMINISTRATION'S BUDGET PROPOSALS.

THE PRESIDENT'S BUDGET ALSO CONTAINS A REQUEST IN THE AMOUNT OF $3,000,000 IN CONSTRUCTION FUNDS FOR RECREATIONAL FACILITIES IN THE VICINITY OF THE JONES BLUFF LOCK AND DAM ON THE ALABAMA RIVER IN LOWNDES AND AUTAUGA COUNTIES, ALABAMA. THE COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION, HOWEVER, HAS REQUESTED THAT IN KEEPING

WITH THE DRIVE TO CUT BACK GOVERNMENT SPENDING THIS PROJECT BE DELAYED. I ENDORSE THE RECOMMENDATION OF THE ASSOCIATION.

THE ASSOCIATION HAS REQUESTED APPROVAL OF AN UNBUDGETED ITEM IN THE AMOUNT OF $3,000,000 FOR ADVANCED ENGINEERING AND DESIGN WORK IN CONNECTION WITH THE COOSA RIVER NAVIGATION PROJECT. AS THE COMMITTEE KNOWS, EXTENSION OF NAVIGATION ON THE UPSTREAM PORTION OF THE COOSA-ALABAMA RIVER SYSTEM IS THE VITAL "MISSING LINK" IN THIS WATERWAY. UNLESS AND UNTIL THIS 280 MILE NAVIGATION CHANNEL BECOMES A REALITY, THE PEOPLE OF THE WATERSHED WILL BE UNABLE TO ENJOY THE BENEFITS ASSURED BY THE COMPREHENSIVE DEVELOPMENT OF THE RIVER SYSTEM.

THIS RIVER BASIN HAS ALL THE NATURAL AND HUMAN RESOURCES ESSENTIAL FOR ECONOMIC PROGRESS. WHEN THE COOSA RIVER IS IMPROVED FOR NAVIGATION, NEARLY ONE-HALF OF ALABAMA'S CITIZENS WILL BE DIRECTLY BENEFITED. I STRONGLY URGE THE COMMITTEE'S APPROVAL OF THIS IMPORTANT ITEM.

WARRIOR-TOMBIGBEE WATERWAY AND MOBILE HARBOR

MR. CHAIRMAN, THANK YOU FOR THIS OPPORTUNITY TO AGAIN APPEAR BEFORE THIS COMMITTEE IN BEHALF OF FUNDS FOR THE WARRIOR-TOMBIGBEE WATERWAY AND MOBILE HARBOR.

THE PRESIDENT'S BUDGET FOR THE 1982 FISCAL YEAR CALLS FOR $7,493,000 IN OPERATION AND MAINTENANCE FUNDS FOR THE WARRIOR-TOMBIGBEE RIVER SYSTEM AND $3,044,000 FOR SIMILAR ACTIVITIES AT THE MOBILE HARBOR. THIS REQUEST, OF COURSE, STEMS FROM THE RESPONSIBILITY OF THE ARMY ENGINEERS TO KEEP FEDERAL RIVER AND HARBOR PROJECTS. MOBILE IS ALABAMA'S ONLY SEAPORT AND IS ONE OF THE NATION'S GREAT NATURAL SEAPORTS. THE PORT OF MOBILE IS STRATEGICALLY LOCATED AND FOR MANY YEARS HAS RANKED AMONG THE TOP TEN PORTS IN THE UNITED STATES. THERE IS ALSO IN THE BUDGET A REQUEST FOR $700,000 IN SURVEY MONEY FOR THE PORT OF MOBILE.

THIS STUDY WILL ADDRESS ITSELF TO THE MERITS OF DEEPENING THE MOBILE SHIP CHANNEL.

I SHALL NOT DWELL UPON THE SUBJECT AT THIS TIME, BUT I WOULD LIKE TO POINT OUT TO THE COMMITTEE THAT THERE IS PENDING IN CONGRESS A BILL PROVIDING FOR THE DREDGING OF MOBILE TO "SUPER DEPTH" SO AS TO PERMIT ENTRY OF NEW SUPER TANKERS AND BULK CARRIERS. FOR THE ALABAMA WATERWAY SYSTEM -- AND INDEED, OUR ENTIRE INLAND WATERWAY SYSTEM -- TO REACH ANYTHING NEAR FULL CAPACITY, IT IS IMPORTANT THAT MOBILE HARBOR BE IMPROVED TO ACCOMMODATE THESE HUGE CARRIERS.

THE WARRIOR-TOMBIGBEE WATER IS A VITAL COMMERCIAL FEEDER TO THE PORT OF MOBILE. THE REQUEST FOR SURVEY FUNDS IN THE NEW BUDGET SHOULD EXPEDITE COMPLETION OF THE STUDIES NOW UNDERWAY TO DETERMINE REPLACING THE EXISTING LOCK AT THE WILLIAM BACON OLIVER LOCK AND DAM NEAR TUSCALOOSA WITH A MODERN 110 x 600 FEET LOCK OR WELL AS THE FEASIBILITY OF PROVIDING DUPLICATE LOCKS AT THE LOCKS AND DAMS NEAR DEMOPOLIS AND COFFEEVILLE. IN THE DAYS TO COME, CONSIDERATION MUST ALSO BE GIVEN TO PROVIDING CUT-OFFS AT CERTAIN RIVER BENDS AND THE WIDENING AND DEEPENING OF THE CHANNEL. APPROVAL OF THE ITEMS I HAVE DISCUSSED WILL MOVE US MUCH CLOSER TOWARD THE COMPLETE MODERNIZATION OF THE GREAT WARRIOR-TOMBIGBEE RIVER SYSTEM.

ADDITIONAL WATERWAY ITEMS

MR. CHAIRMAN, OTHER WATERWAY ITEMS IN THE BUDGET FOR THE 1982 FISCAL YEAR INCLUDE $2,509,000 FOR OPERATION AND MAINTENANCE ACTIVITIES FOR THE FOLLOWING PROJECTS: BAYOU CADEN, BAYOU LA BATRE, BON SECOUR, DAUPHIN ISLAND BAY, PERDIDO PASS, THE GULF INTRACOASTAL WATERWAY, AND THE DOG AND FOWL RIVERS.

ALSO, INCLUDED IN THE BUDGET IS A REQUEST FOR $49,000 TO REMOVE AQUATIC GROWTH ON NAVIGABLE STREAMS IN OUR STATE.

IN CLOSING, I SHOULD LIKE TO COMMENT BRIEFLY UPON THE BUDGET REQUESTS FOR THE APALACHICOLA-CHATTAHOOCHEE-FLINT RIVER SYSTEM. THE BUDGET FOR THE 1982 FISCAL YEAR CALLS FOR $7,320,000 IN OPERATION FUNDS AT THE WALTER F. GEORGE LOCK AND DAM AND $3,153,000 FOR SIMILAR ACTIVITIES AT THE WEST POINT LAKE PROJECT.

AS THIS COMMITTEE KNOWS, THIS WATERWAY HAS EXPERIENCED SEVERE NAVIGATION PROBLEMS IN RECENT YEARS. THERE IS NO DOUBT THAT THIS RIVER BASIN IS IDEAL FOR GROWTH, BUT COMMERCIAL USERS OF THE WATERWAY MUST HAVE THE ASSURANCE OF NAVIGATION ON A TWELVE MONTH BASIS.

UNFORTUNATELY, INTERSTATE DISAGREEMENTS CONCERNING THIS WATERWAY HAS LIMITED THE BENEFITS THE RIVER SYSTEM CAN BRING TO THE PEOPLE OF THE WATERSHED. HAPPILY, THE GOVERNORS OF THE STATES OF ALABAMA, GEORGIA AND FLORIDA HAVE REACHED A MEETING OF THE MINDS THROUGH THE ESTABLISHMENT OF A TASK FORCE WHICH IDENTIFIED AND PROPOSED SOLUTIONS TO THE MYRIAD OF PROBLEMS SURROUNDING THE ENDEAVOR TO INSURE YEAR ROUND NAVIGATION ON THE WATERWAY.

IN THE ADMINISTRATION'S BUDGET FOR THE 1982 FISCAL YEAR, THERE IS A REQUEST IN THE AMOUNT OF $3,635,000 IN OPERATION AND MAINTENANCE ACTIVITIES FOR THE APALACHICOLA-CHATTAHOOCHEE-FLINT RIVER SYSTEM. I STRONGLY URGE APPROVAL OF THIS ITEM. ADDITIONALLY, I WOULD HOPE THAT THIS COMMITTEE WOULD CONSULT WITH OFFICIALS OF THE ARMY ENGINEERS REGARDING THE NEED FOR APPROVING FUNDS FOR THE REMOVAL OF ROCK LEDGES WHICH SET THE CONTROLLING DEPTH IN THE RIVER SYSTEM DURING LOW FLOW. IT IS MY UNDERSTANDING THAT THE U. S. FISH AND WILDLIFE SERVICE CAN ADVISE THE ARMY ENGINEERS ON THE PROCEDURE WHICH MUST BE FOLLOWED IN CONNECTION WITH THE ROCK REMOVAL WHEREBY FISH PROPAGATION WILL NOT BE ENDANGERED.

THANK YOU.

TENNESSEE-TOMBIGBEE WATERWAY

STATEMENT OF HON. RICHARD C. SHELBY, U.S. REPRESENTATIVE FROM ALABAMA

Mr. WILKINS. At this time, I would like to introduce Richard Shelby, a Congressman from Alabama.

Senator STENNIS. Mr. Shelby, we are delighted to have you here. May I say a word of thanks, further to our Governors. You are busy men, you ought to be busy. If you have to go, we fully understand. We want you to come again—we feel good about this project. We have such a strong case and you gentlemen have made it stronger. We are going to win this battle in the end, because it is right and because it is for the people of the entire Nation. That is who will benefit. Thank you again.

Mr. SHELBY. Mr. Chairman, we thank you for this fine hearing. If you would excuse us, Governor Alexander, Governor James, and myself.

Senator STENNIS. We understand.

Congressman, we are delighted to have you here, if any of your colleagues are with you, we will hear them next, too.

PREPARED STATEMENT

Mr. SHELBY. I have a prepared statement on the Tennessee-Tombigbee I would like to submit for the record, Mr. Chairman.

Senator STENNIS. Thank you very much.

[The statement follows:]

STATEMENT OF REPRESENTATIVE RICHARD C. SHELBY OF ALABAMA

Mr. Chairman, thank you for again giving me a chance to appear before you in support of the Tennessee-Tombigbee Waterway.

Construction of that portion of the Tenn-Tom which lies in my district in southwest Alabama is complete. Now people in the area are turning their full attention to developing facilities to take full advantage of this transportation route when it is complete and open to navigation.

The area of Alabama I represent is predominantly rural with a history of chronic unemployment and low per capita income. Agriculture represents a major portion of the income activity in the area. Farmers are already using the lower portion of the new waterway to move their grain. Since limited use of the waterway began about a year ago, over 5 million bushels of soybeans and wheat have been shipped at savings of 10 to 15 cents per bushel.

The importance of the Alabama grain export market enhanced by the shorter, cheaper Tenn-Tom route is causing area farmers to increase production. Last year, the grain elevator at Mobile State docks handled a record 78 million tons of grain.

A major river port/river park development is in planning stages to facilitate movement of barges. Fleeting areas and service centers will also offer additional opportunities for investors.

Commerce on the Tenn-Tom is expected to grow to 55 million tons well before the turn of the century with transportation cost savings reaching over $140 million annually.

Historically, traffic on most waterways actually exceed original estimates. Not counting future growth, the potential tonnage movement on the Tenn-Tom is nearly twice the ultimate capacity of the waterway. The question is not whether the waterway will be utilized, but how quick can it be opened to full navigation.

Thank you.

Mr. SHELBY. First of all, I want to be brief. This is the third time I have testified before your committee and, again, Mr. Chairman, and Senator Huddleston, it is an honor and a privilege for me because in my part of Alabama they have completed the Tennessee-Tombigbee, as Senator Huddleston knows. We have the Gainesville lock and dam in operation and I think it would be a travesty and just plain stupid if we did not finish it. The Aliceville lock and dam and the Columbus lock and dam and all the rest are going to open up the entire area. I do not want to rehash everything that has gone on, but to commend you, Mr. Chairman, you have pushed this for years since you have been in the Congress of the United States, and Governor James said you are our third Senator. I think you are a representative not only of Mississippi, but the entire Nation, and this is a national project. That is all I want to say.

Let us build it and let us finish it just like we have done in my district. Thank you for allowing me to appear.

Senator STENNIS. Thank you very much, Congressman. Thank you very much. I am proud to be your neighbor.

We are back down to you, Mr. Wilkins.

Mr. WILKINS. At this time, I would like to present the statement of other organizations that have supported the waterway. I would like to call Bennett Turner who has a statement in behalf of Aaron Henry.

Senator STENNIS. Come right around. We are delighted to have you here and have you represent Aaron Henry.

STATEMENT OF BENNETT TURNER, ON BEHALF OF AARON HENRY, PRESIDENT, MISSISSIPPI STATE CONFERENCE OF THE NAACP

Mr. TURNER. Thank you, Mr. Chairman, I am Bennett Turner. I am indeed appreciative to have the privilege and opportunity to give this statement on behalf of Dr. Henry. With your permission, I will summarize the statement and submit it for the record.

Senator STENNIS. Very well.

Mr. TURNER. Dr. Henry points out that the State Conference of Mississippi NAACP is in support of completion of the Tenn-Tom project for two primary reasons. The first would be the employment opportunities that this project has during construction and also in terms of development after the project is completed. And second, the reduction in transportation cost and he urges this committee to recommend to your colleagues that Tenn-Tom be funded at the level recommended by President Reagan.

Thank you.

[The statement follows:]

STATEMENT OF AARON E. HENRY, PRESIDENT, MISSISSIPPI STATE CONFERENCE OF THE NAACP

Dear Mr. Chairman, I was unable to appear before you in person because of other commitments on my schedule, so, please accept this statement as an indication of our support for the completion of the Tennessee-Tombigbee Waterway project.

We of the Mississippi State Conference of the NAACP feel very strongly that the Tennessee-Tombigbee project is a major employment project in Mississippi. It has a large number of Blacks employed that would be without obtainable employment should the Tennessee-Tombigbee project be curtailed or halted.

The Army Corps of Engineers has adopted a realistic affirmative action goal of 30 percent minority employee participation in the construction of the project and has made efforts, worthy of notice, in fulfilling the minimum goals for minority participation in many crafts employed in the construction of the waterway.

We feel also, that the project itself will serve a great deal in transportation as it connects the Tennessee and Tombigbee Rivers with the Gulf of Mexico. The benefits included in this project in that respect are too numerous to detail herein.

It is for the primary reasons stated above that we of the Mississipi State Conference NAACP urge each member of this subcommittee to recommend that sufficient funds be appropriated so that the Tennessee-Tombigbee water project can be completed.

Senator STENNIS. We thank you very much and appreciate the fact you are here. Where do you live, Bennie?

Mr. TURNER. West Point, Miss.

Senator STENNIS. Gentlemen, let me bring you greetings, too, from Senator Hatfield. Senator Hatfield is from the State of Oregon. That is about as far west as you can go. He is chairman of our Appropriations Committee—and has been a member of it for a long time. This is the first time he has been chairman. [Laughter.]

He is a very ardent, strong, effective supporter of this project and he lives 2,000 miles from it. He has given his support in the past. He will give us support this year and he sends his greetings, as does our other Senator from Mississippi, Senator Cochran, who could not be here today, but he is strongly behind this, has been active in it already and will continue to be. Now he is a very valuable member of our Appropriations Committee, too.

PREPARED STATEMENT OF SENATOR COCHRAN

I would like to make his prepared statement a part of this hearing record, without objection.

[The statement follows:]

STATEMENT OF SENATOR THAD COCHRAN OF MISSISSIPPI

Mr. Chairman, I appreciate this opportunity to indicate again my support for continued funding of the Tennessee-Tombigbee Waterway project.

I am especially pleased that President Reagan has requested $201 million in the fiscal year 1982 revised budget for continued construction of this very important project.

The Senate twice last year defeated efforts to cut apropriations for the waterway. There is a stronger case now than then for moving ahead on the schedule for completion of the project.

There has been allocated through fiscal year 1981 a total of $1,099 million, which is over 62 percent of the total funds needed. With the President's recommendation of $201 million, the total funding requirements will be 73 percent met.

Failure to provide the necessary funds to move the project ahead on schedule, or elimination of funds in fiscal year 1982, will result in substantial costs to the Federal Government associated with closing down the project. The Corps of Engineers estimates that it will cost $122 million just to terminate contracts underway. To restore the lands which are impacted by the project will cost another $161 million. When you add this total of $283 million in termination and restoration costs to the total funds already allocated of $1,099 million, we would be saying that the Congress has wasted $1.4 billion that will return no benefits to the taxpayers of this country.

However, by providing the remaining $201 million for fiscal year 1982 and $408 million in fiscal year 1983 through completion in 1986, we will be insuring the return on our investment of over $121 million annually as the waterway serves our Nation's transportation needs in to the future. When we consider the termination and restoration costs that would be required by failure to fund the remaining project, the net cost is $398 million.

I urge the committee to recognize the value of investment the Congress has made in this worthwhile project and insure that its full benefits will be realized by providing the necessary funds to finish it on schedule.

STATEMENT OF JACK FLYNN REPRESENTING J. C. TURNER, GENERAL PRESIDENT, INTERNATIONAL UNION OF OPERATING ENGINEERS, AFL-CIO

Mr. Wilkins. Mr. Chairman, at this time, I would like to introduce Mr. Flynn, legislative director of the International Union of Operating Engineers, to give a statment.

Senator Stennis. Come right on around, please. Come to the chair and proceed.

Mr. Flynn. I would like to give this statement in behalf of J. C. Turner, our general president.

On behalf of the 425,000 members and officers of the International Union of Operating Engineers and the 4 million members of the Building Trades Department, AFL-CIO, we appear before you to submit our testimony in support for the Tennessee-Tombigbee Waterway.

The need to continue construction on this important waterway cannot be stated too lightly for the Tennessee-Tombigbee Waterway has given to this country a great opporunity for economic development, but also a greater opportunity for local employment and it does so with wages covered under labor standards that were based on Davis-Bacon provisions.

The Tennessee-Tombigbee Waterway goes through some of the most economically deprived areas of the Nation. Many of these counties, some with greater than 50-percent minority populations, have had historical trends of high unemployment and underemployment and very low per capita incomes. Personal income in some counties is the lowest in the Nation.

The construction of the Tenn-Tom has provided many of these residents their first opportunity to be gainfully employed. These job opportunities did not occur by happenstance but from the cooperative efforts of the Corps of Engineers, the various trade unions, the contractors, and others.

First, a special bid provision was included in construction contracts encouraging contractors to hire at least 80 percent of their labor force from the local area. Second, an unprecedented affirmative action plan was adopted to encourage greater utilization of minorities in all trades or skills needed for construction of the waterway. Third, union-sponsored training programs and those by others have permitted many of the unskilled residents to enter into this job market. Training programs have been established for carpenters, ironworkers, laborers, and operating engineers.

Employment during peak construction on the waterway is about 5,000 people. During the period of July-September 1980, over 1.6 million work-hours were performed on the waterway. About one-half, or about 870,000 work-hours, went to operating engineers.

During this same period, 27 percent of the total work-hours was performed by minority workers and about 6 percent was by female workers. Total payroll during this period amounted to about $13 million.

The waterway construction has had a profound economic impact in the region and demonstrates the kinds of social and economic benefits that can be generated from Federal investments in large public works projects. However, the job opportunities and the economic benefits of the waterway after its completion will far outweight its construction costs.

The Appalachian Regional Commission estimates that as many as 135,000 new jobs will be created by the waterway in a four-State region by the year 2000, mostly due to new high-wage, highly skilled industries locating in this region because of the low-cost transportation advantages of the waterway. An additional $2.9 billion of personal income and private investment will be generated as a result of this growth.

Again, on behalf of my own international union and all the members and officers of the building trades department, AFL-CIO, let me express my thanks for the consideration shown to me by the members of your committee.

Thank you.

Senator STENNIS. We certainly do thank you for your statement, for coming here and giving us this statement, too. You presented it well.

MINORITY PARTICIPATION IN PROJECT DEVELOPMENT

Gentlemen, there is a brief letter, if I may take a minute here, in the exhibit filed here by Mr. Bennett Turner, not the immediate witness, but immediately preceding the other, from Aaron Henry who is longtime president of the Mississippi State Conference of the NAACP, if I may read three sentences so we just bring it out here rather than put it in the middle of a book:

> We of the Mississippi State Conference of the NAACP feel very strongly that the Tennessee-Tombigbee project is a major employment project in Mississippi, has a large number of Blacks employed, and would be without obtainable employment should the project be curtailed or halted. Furthermore, the Army Corps of Engineers has adopted a realistic affirmative action goal of 30 percent of minority employee participation in the construction of the project and has made efforts worthy of notice in fulfilling the minimum goals for minority participation in many crafts employed in the construction of the waterway.

As a matter of fact, gentlemen, the President of the United States, Mr. Carter, last year gave a special recognition award to this project for what had been accomplished. These things have meaning. It is no idle gesture that this man sent in a letter to the chairman of this committee. He felt the facts should come out. I consider that worthy. The way this matter has been handled. Mr. Wilkins.

Mr. WILKINS. At this time, I would ike to introduce Mr. Steve Patterson, the executive director of the Tombigbee River Valley Water Management District.

Senator STENNIS. Pull the microphone up close, Mr. Patterson. You can't get it too close.

TENNESSEE-TOMBIGBEE WATERWAY

STATEMENT OF STEVEN A. PATTERSON, EXECUTIVE DIRECTOR, TOMBIGBEE RIVER VALLEY WATER MANAGEMENT DISTRICT

Mr. PATTERSON. Thank you, Mr. Chairman, thank you for allowing me a few minutes to come before this committee on behalf of the Tombigbee River Valley Water Management District to show our support of the Tennessee-Tombigbee Waterway. The Tombigbee River Valley Water Management District is composed of those counties in Mississippi which will be most directly affected by the waterway. The district was created by an act in the State legislature in 1962.

I have a formal prepared statement, but in the interest of time, I would like to limit my actual remarks to a summary of the high points. Our statement not only discusses the local benefits that will result from construction of the Tennessee-Tombigbee Waterway, but also points out benefits to the State of Mississippi, the 14-State region of mid-America, and the Nation as a whole.

PROJECT BENEFITS

In preparing our statement, we found that it is simply impossible to speak of benefits in local terms alone. There is a natural progression of benefits radiating outward from the local level to the national scene. It is estimated that upon completion of the waterway that the annual savings in transportation costs will exceed $121 million. Completion of the waterway will cut the distance from some major inland ports to the Gulf of Mexico by more than 800 miles. And the Nation will incur related benefits in the area of education, regulation, and environmental quality, as Mississippi counties will.

And also, Mr. Chairman, an area that has been and once was an economic liability to this Nation may, indeed, become an economic asset. We see the waterway as a means of pulling ourselves up by our own bootstraps.

Transportation savings in energy will mean more energy for national needs. Savings in transportation of products will be passed on to consumers throughout the United States.

LOCAL SUPPORT

In short, we have attempted to emphasize that the spirit of Federal cooperation can and does work as it should. Local support on the part of the Tombigbee River Valley Water Management District has taken the form of several million dollars in local bond issues. We have moved forward on this with the Federal Government in a spirit of cooperation and a spirit of trust. This committee has moved forward in a similar spirit in supporting this project in the past. It is our hope that this spirit will endure in the future. You have made what amounts to an initial investment in the future of our area. We are here to assure you that the return on this investment will be both a more economically productive local region and a stronger nation as a whole. Thank you.

[The statement follows:]

STATEMENT OF STEVEN A. PATTERSON, EXECUTIVE DIRECTOR, TOMBIGBEE RIVER VALLEY WATER MANAGEMENT DISTRICT

Thank you Governor Winter for your kind introduction, and thank you Mr. Chairman and Committee Members for this opportunity to appear before you in support of the Tennessee-Tombigbee Waterway.

This is also my first appearance before this Committee as I was only recently appointed Executive Director of the Tombigbee River Valley Water Management District. However, the Water Management District (as I refer to it) has been deeply involved in this project from the aspect of local support since its creation by the Mississippi Legislature in 1962. The Water Management District is composed of those counties in Mississippi which will be most directly affected by the Waterway.

This region has a history of tragic economic neglect, and the importance of the Waterway project in this area cannot be overestimated. Already 4,000 to 5,000 new jobs have been created with, as Governor Winter has stated, 80 percent of the work force being from the local area. In addition, a study made for the Appalachian Regional Commission projects that the Tenn-Tom will cause creation of as many as 135,000 jobs in a 167 county area of Alabama, Kentucky, Mississippi, and Tennessee by the year 2000. This projection is in addition to normal growth expected to occur. The shorter route to new markets, availability of cheap water transportation, the energy crunch and a government and business climate that not only welcomes but encourages new industry, will result in extensive development along the Waterway.

The Waterway, annually, will generate more than $121,000,000 in savings in transportation costs. These savings will result in benefits not only to the states directly involved, but will have a beneficial impact upon the nation as a whole.

The Tennessee-Tombigbee Waterway is nearing the two-thirds construction point. When completed the Tenn-Tom Waterway will be an important link to a national transportation system which will directly affect shipping in a 14 state area of Mid-America and be a significant factor in reducing transportation costs to shippers and ultimately consumers. The project will connect Mid-America's 16,000 mile system of inland navigable waterways with ports along the Gulf. It will cut the distance from some major inland ports to the Gulf by more than 800 miles. Shipments of coal, an increasingly valuable and important energy resource, will represent the bulk of the movements during the initial years. The savings in national energy costs directly attributable to the Waterway will therefore be twofold. Savings will result from utilization of a more inexpensive means of transportation, eliminating an energy drain and savings will result from an increased ability to provide an alternative to petroleum products at reduced costs.

Some areas will, of course, be affected more dramatically than others. This is due not only to the close proximity of the project to these areas, but to the fact that these areas, including those counties making up the Water Management District, have historically been severely economically disadvantaged and neglected.

In addition to jobs, the revenue to surrounding communities from employees has had a tremendous impact of untold benefit. Add to this the encouragement for industry to locate in this area and you can readily see why we are so vocal in our support of the project. It is important to stress that we are not asking for a federal handout. Rather, the Waterway is a means to pull ourselves up by our own bootstraps. Thus, we have not only been more than willing to contribute all we can in local support towards the eventual completion of this project, but also desire to become a greater economic asset to the nation as a whole. Local support has taken the form of $3.5 million in bond issues by the Water Management District. We have moved forward on this with the federal government in a spirit of cooperation and trust - - a spirit which has endured on both sides throughout construction.

The eventual impact of the project will reach far beyond economics; the more than 160 counties in four states directly affected by the Waterway will also experience related benefits in the areas of education, recreation, and environmental quality. Because of the Committee's request that witnesses keep their statements as brief as possible, I will limit my remarks to only a few examples.

In the area of education, several Environmental Education Centers are planned for the impacted areas. One of these, the Plymouth Bluff Environmental Education Center is to be built near Columbus, Mississippi. While the Tombigbee River Valley Water Managment District is the Corps of Engineers' non-federal sponsor for such developments in Mississippi, we have arranged for the Mississippi University for Women to be the formal sponsor for this facility, which will be the first of its kind to be built by the Corps in the nation. The general purpose of the center will be to provide for the study and preservation of the natural environment, including the importance of the environment as it relates to the quality of human life, and to an increased awareness of the history and culture of the Tennessee-Tombigbee Waterway area.

As can be readily seen, these projects will produce a heightened awareness of the importance of our environment and benefit the ecology of the area greatly. In addition to such educational centers, wildlife management areas and wildlife ponds are planned by both state and federal governments.

As Governor Winter pointed out, the Waterway has been at the center of controversy in the past and has been opposed by several national environmental organizations. We would like to concur in Governor Winter's observation that the Waterway has withstood numerous challenges in Federal Court, and, perhaps more importantly, has received the support of the local people most affected. It is the quality of our ecological and natural resources which are affected by the Waterway, and we would certainly not allow this quality to be in any way diminished.

In fact, it will be the enhanced environmental quality resulting from construction of the Waterway that will provide for increased recreational opportunities in the area. Rustic camping areas, boating and fishing facilities, and increased opportunities for hiking and nature study are among the plans along the 232 mile long project. I would like to point out two things in connection with this aspect of the project: First, it is the state and local authorities who will be responsible for maintaining these recreational facilities; and second, these facilities will provide recreational opportunities that are within easy reach of local people, eliminating the necessity for long distance driving.

My reason for emphasizing this is to show our willingness to shoulder our share of the project cost locally and to highlight the national importance in these times of energy conservation by looking closer to home and finding alternatives to driving great distances for recreation.

This is important to note because while our area will feel the beneficial impact more directly, the benefits will expand outward from this project in a ripple-effect eventually reaching nationwide proportions. As already noted, the savings in transportation alone will be tremendous. But these related side effects will result in savings also.

The State of Mississippi as a whole will benefit from greater tax receipts and the creation of a more economically sound and productive region within the state. Tax revenues received by the State of Mississippi from construction of the project alone will be $199,604,000. Other affected states will, of course, benefit in similar fashion.

Too often we look only at the tangible economic benefits in savings for national transportation which will result from construction of the Waterway. It is also important, however, to look at the intangible benefits that the federal government and the nation as a whole will eventually receive.

The Waterway, because it will revitalize a previously economically stricken area, will eventually produce results in savings to the federal government in grant money and economic assistance programs. Welfare and unemployment needs will diminish as jobs and productivity increase. The entire area will become a national asset where once it was a liability.

I realize the time is limited and printing costs should be kept to a minimum, and therefore, although much more may be said, I will attempt to conclude.

I have attempted to emphasize many things before this Committee today, but they all add up to one thing: "The Spirit of Federal Cooperation" can and does work as it should.

The Tennessee-Tombigbee Waterway is indeed a showcase of federal, state, and local cooperation with a goal of providing federal assistance to allow for state and local maintenance--A purpose of making an initial federal investment in some states and gaining a return that will result in a better quality of life for all the states in our federal system.

We greatly appreciate the support this Committee has given in bringing the Tennessee-Tombigbee Waterway to its present stage of construction. It is our firm belief that your continued support of this project will produce not only new, economically sound local areas, but will also result in an even stronger nation as a whole.

Thank you.

INTRODUCTION OF SUPPORTING WITNESSES

Senator STENNIS. We thank you very much. Gentlemen, I have a list that constitutes the representatives of this very fine water management district. I will just call them out very hurriedly, put the full name and address in the record. Mr. Robert Cook, Mr. Patterson, who has just spoken; Robert Calvert, Larry Dillard, Jimmie Mills, O. E. Bostick, James Chatham, Wayne Riley and Mrs. Miriam Kirkpatrick, Mike Sullivan, Allen Harpole, Glen Goodwin, Charles Gower, Charles Caviness, Bob Marshall, Stanley Pulliam, James Hugh Ray, DeVan Dallas, Billy Davis, and Mrs. Bob Cook. Without objection, those names and addresses, too, will be put in the record at this place. We thank them for their interest and what they are doing.

[The list follows:]

LIST OF INDIVIDUALS APPEARING IN SUPPORT OF THE STATEMENT SUBMITTED BY TOMBIGBEE RIVER VALLEY WATER MANAGEMENT DISTRICT
TUPELO, MISSISSIPPI

MARCH 23, 1981

Robert P. Cook, Vice President
Pontotoc, MS 38863

Steven A. Patterson
Executive Director
Tupelo, MS 38801

Robert L. Calvert
Secretary
West Point, MS 39773

Larry M. Dillard
Administrative Assistant
Tupelo, MS 38801

Jimmie Mills, Engineer
Tupelo, MS 38801

O. E. Bostick, Director
Golden, MS 38847

James Chatham, Director
Fulton, MS 38843

Wayne Riley, Director
Fulton, MS 38843

Mrs. Miriam Kirkpatrick
Director
Amory, MS 38821

Mike Sullivan, Director
Okolona, MS 38860

Allen Harpole, Director
Columbus, MS 39701

Glen Goodwin, Director
Booneville, MS 38829

T. Charles Gower, Director
Baldwyn, MS 38824

Charles Caviness, Director
Corinth, MS 38834

Bob Marshall, Jr., Director
West Point, MS 39773

Stanley Pulliam, Director
Houston, MS 38851

James Hugh Ray, Attorney
Tupelo, MS 38801

DeVan Dallas
Park Superintendent
Pontotoc, MS 38863

Billy Davis
Guntown, MS 38849

Mrs. Bob Cook
Pontotoc, MS 38863

ADDITIONAL STATEMENTS FOR THE RECORD

Mr. WILKINS. Mr. Chairman, at this time I would like to place in the record a statement from the Mining and Reclamation Council of America, an organization that represents 3,000 coal operators, and the Dump Transportation Industries Association.

Senator STENNIS. All right, you have those for the record?

Mr. WILKINS. Yes, sir.

Senator STENNIS. Without objection, they will be placed in the record.

[The statements follow:]

STATEMENT OF THE MINING AND RECLAMATION COUNCIL OF AMERICA

The Mining and Reclamation Council of America (MARC) is a national association representing the surface coal mining industry. Through its corporate membership and affiliated state and regional coal associations, MARC represents more than 3,000 coal operators and industry suppliers nationwide. Our member companies account for more than seventy percent of our nation's total coal production.

MARC supports the funding and construction of the waterway connecting the Tennessee and Tombigbee Rivers. This 232-mile waterway which will connect 16,000 miles of inland waterways, began in 1972 and is now almost 50 percent complete. Nearly 70 percent of the total costs of the project are presently under contract.

Cutting off funding at this point of Tenn-Tom's development would deprive the nation of the enormous benefits which this vital waterway would provide. Regional development, energy savings, an increased export trade for the United States and the creation of more jobs are among the benefits to be gained as a result of the construction of Tenn-Tom.

We must not be caught in the short-sighted trap of slashing spending to realize immediate savings. Cutting dollars from the Ten-Tom budget now would also slash enormous economic growth potential in the future. This nation suffers the severe economic consequences of an unfavorable balance of trade and a dependency on inflationary imported oil supplies. The Tenn-Tom will directly address both of these crucial issues. During its first year of operation, it is estimated that 21 million tons of coal will be transported on the waterway. The projected savings for this movement is $61 million in transportation costs. By providing a cost-effective means of transporting America's vast coal reserves, the Tenn-Tom will be working to reduce our dependency on the foreign oil imports that have steadily fueled the inflation rate in this country. And, by opening vast new export opportunities for thousands of American firms and farmers, the Tenn-Tom will be working to bring back some of those dollars currently trapped abroad by our own export deficiency.

STATEMENT OF WILLIAM T. JOHNSTON, CHAIRMAN OF THE BOARD, NATIONAL DUMP TRANSPORT INDUSTRIES ASSOCIATION

ENERGY AND INFLATION "COMBAT" WITH WATER TRANSPORTATION SERVICED BY THE TRUCKING INDUSTRY

We represent a major industry whose services are related to energy. One of our main commodities hauled in semi dump trailers is coal. Our coal here in Ohio is of a high sulfur content. What we need is to get this coal to market, utilize the "Blending" process, and help with balance of world trade by exporting. In order for this to be feasible, we need water transportation to the Gulf from the Appalachian area.

The Tennessee Tombigbee Waterway is the solution to our problem, with one exception, the time element. We need the completion date to be as soon as possible and priorities put in their proper perspective.

The National Dump Transport Industries Association (DTIA) is prepared to service the 15 ports along the Tennessee Tombigbee Waterway. Our industry feels honored to service a feasible means of transportation such as water, but all modes of transportation are needed. We have to learn and want to work together to accomplish the complete network of transportation.

Mr. WILKINS. Also, the AFL-CIO could not be here today because they had a conflict of schedule. They will submit a statement in the record supporting the waterway.

Senator STENNIS. That will be included in the record when received.

PREPARED STATEMENT

Mr. WILKINS. I also have a prepared statement representing the Tennessee-Tombigbee Waterway Development Authority, which I would like to submit at this time for the record, along with resolution of the Mississippi House of Representatives which supports the project.

Senator STENNIS. All right. Without objection, your full statement and the resolution will be incorporated in the record.

Mr. WILKINS. Yes.

Senator STENNIS. It will be placed in the record.

[The statement and resolution follow:]

STATEMENT OF GLOVER WILKINS, ADMINISTRATOR, TENNESSEE-TOMBIGBEE WATERWAY DEVELOPMENT AUTHORITY

Mr. Chairman, I am Glover Wilkins, Administrator of the Tennessee-Tombigbee Waterway Development Authority. I appreciate the opportunity to once again present this statement to the members of this Committee for consideration in your decision on appropriations for Tenn-Tom in fiscal year 1982.

I am pleased to report that giant strides have been made during the past year in construction of the Tenn-Tom. The waterway is now more than half-way completed. By the end of this fiscal year nearly two-thirds of the construction will be finished with about $250 million of work remaining to be contracted.

All of the major facilities or contracts have now been awarded. Of the ten locks and dams, five are complete or virtually complete. Of the remaining five major structures, two are more than 50% complete. Nearly three-fourths of the 150 million cubic yards of excavation work in the Divide Cut has been accomplished. The amount of excavated material already removed from this 27-mile reach of the waterway exceeds that amount excavated in the construction of the Suez Canal.

These construction activities have helped tremendously in dampening the impact of the current economic recession on the counties along the waterway. About 5000 workers are employed on the project during peak construction. Over 80 percent of these workers are from the local area. This emphasis on local hiring has helped preclude the "boom and bust" conditions typical of most large construction projects in rural or sparsely populated areas.

During the period of July to September 1980, over 1.6 million work hours were performed on the waterway. Twenty-seven percent of this work went to minority workers, many of whom are now enjoying gainful employment for the first time. The payroll for this period amounted to about $13 million.

Small economically disadvantaged businesses in the local area have also benefited significantly from the waterway construction. Over $20 million of work have gone to these firms with even larger increases planned for the next three years.

Indications of the potential use of the waterway as an efficient mode of transportation are already evident. With the completion of the Gainesville and Aliceville facilities, the lower one-half of the waterway is now opened to limited navigation. From two to four barge tows can navigate as far north as Columbus, Mississippi or about 115 miles. The completion of on-going dreding and railroad bridge relocations is necessary before this reach will accommodate an eight-barge tow. Nevertheless, over 5 million bushels of wheat and soybeans have already been shipped from a private terminal near Aliceville, Alabama to Gulf ports for export.

With the waterway now less than five years away from completion, major companies and shippers are showing an increasing interest in the Tenn-Tom. This has been particularly true for coal producers and shippers.

Lack of adequate and efficient transportation is a serious impediment to major increases in coal production in the U. S. Demand is no longer a problem with all free world countries desperately trying to convert from exorbitantly priced OPEC oil to coal, a cheaper and more dependable source of energy.

Tenn-Tom will provide a shorter alternative route for shipping coal from producing areas in Appalachia to domestic markets in the southeast and for exports through eastern Gulf ports. For example, coal shipped by barge from eastern Tennessee will be able to save 830 miles or about 65 percent in total distance traveled when the Tenn-Tom is completed.

Tenn-Tom will provide direct access for these coal fields to the Port of Mobile, which is expected to become one of the leading coal exporters in the nation. Plans are now underway to expand the existing coal terminal to a capacity of about 24 million tons. In addition, planned private terminals will accommodate about 14 million tons.

Tenn-Tom is expected to move about 21 million tons of coal during its first year of operation at a total savings in transportation costs of over $60 million. Its early completion, therefore, is vital to our national energy needs.

The total transportation benefits of the waterway are estimated to average about $121 million annually, based on 1980 dollars. These benefits will accrue to 14 states. An example of the broad geographic impact of this waterway is that Illinois, although far removed from the project itself, will be the third most benefited state. This state will actually receive more transportation benefits than Mississippi.

These transportation savings are significant enough to help increase productivity of industries and users of the waterway, which, in turn, will help contribute to the improvement of our economy. The waterway will certainly make our goods more competitive with foreign suppliers.

With the waterway now reaching the two-third's completion mark, only insignificant benefits will be derived until the complete connection with other navigable waterways is made. After 1982 only a $340 million investment will remain to complete the Tennessee-Tombigbee Waterway. With the tremendous potential of benefits this completed waterway will bring, it would be unconscionable to stop the Tenn-Tom now.

It is very important that cooperative planning among the Federal, State and local interests be carried out if these potential economic benefits are to occur in a wise and orderly manner. Accompanying this statement is an agreement signed by the compact governors designating the Authority as responsible for coordinating all waterway related planning activities. This interstate cooperation will help ensure that the necessary planning and the implementation of these plans be accomplished, unnecessary duplication of these efforts be avoided, and more effective communication and cooperation among the public and private interests involved in the waterway.

The ongoing Tennessee-Tombigbee Corridor Study has been most essential in providing needed planning for the four states most directly impacted by the Tenn-Tom. This study is most unique in that it addresses water resources, environmental quality, economic development as well as human resource needs of the individual waterway-impacted counties. We request that this Committee continue funding this study at a reasonable level.

President Reagan has proposed a budget of $201.1 million for Tenn-Tom in fiscal year 1982. While his request is less than the Corps' construction capability of $220 million for the project, the President's recommendation does keep the project on schedule. We are delighted that Mr. Reagan has become the sixth consecutive President to support the Tennessee-Tombigbee.

We know that this Committee and the Congress will be faced with difficult decisions in allocating scarce Federal funds among so many competing programs. We further recognize that funding for some meritorious projects and programs may be slowed down or curtailed as a result of efforts to reduce Federal spending.

In view of the restrictive budgetary and fiscal policies, the Authority does not recommend a specific level of funding for the Tenn-Tom in 1982. Instead, it recommends that the waterway be given funding priority by the Committee, because of its degree of completion and its importance to coal transportation, within the total amount of funds made available for water resource development.

We greatly appreciate the strong support this Committee has provided to this great project. Without your leadership and resolve, we would not be able to report on the excellent progress made in the development of this waterway. Thank you.

Tennessee-Tombigbee Authority Members present:

Barbara Bobo, Millport, Alabama
Gene Braswell, Birmingham, Alabama
Fred Bush, Tupelo, Mississippi
Alex Chamberlain, Louisville, Kentucky
Doyle Conner, Tallahassee, Florida
Harvey Cotten, Tallahassee, FL
Z. C. Enix, Murray, Kentucky
Herman Ewing, Memphis, Tennessee
Jim High, Columbus, Mississippi
Fuller Kimbrell, Fayette, Alabama
Jim Loudermilk, Pensacola, Florida
Richard Manley, Demopolis, ALabama
Jack Paxton, Paducah, Kentucky
John Stanley, Corinth, Mississippi
Elton Stephens, Birmingham, Alabama
Ray Thornton, Fulton, Mississippi
Bill Thrash, Clanton, Alabama
Bennie Turner, West Point, Mississippi
John B. Waters, Sevierville, Tennessee
Emmett Yeiser, Savannah, Tennessee
Jim Yates, Shively, Kentucky
Bill Stevens, Tallahassee, FL (representing Secretary of State George Firestone)

Tennessee-Tombigbee Staff:

Glover Wilkins, Administrator
Donald G. Waldon, Deputy Administrator
Darlene Scogin, Assistant Administrator and Director of Public Affairs
Pat Broocks, Associate Director of Public Affairs and Director of Research

State of Mississippi House Concurrent Resolution No. 124

A CONCURRENT RESOLUTION MEMORIALIZING CONGRESS TO CONTINUE FULL FUNDING OF THE TENNESSEE-TOMBIGBEE WATERWAY PROJECT.

WHEREAS, construction of the Tennessee-Tombigbee Waterway began in December of 1972 with the commitment of federal and state monies to fund the project to completion; and

WHEREAS, this model partnership among governments at all levels and the private sector is estimated to be completed in 1986 at a total cost of $1.96 Billion, comprised of federal and nonfederal funds; and

WHEREAS, through the federal fiscal year ending September 30, 1981, $1.099 Billion of federal funds has been allocated to the project and $1.005 Billion of said funds has been obligated under contract or paid pursuant thereto; and

WHEREAS, construction of the Tennessee-Tombigbee Waterway project is approaching two-thirds completion; and

WHEREAS, the contract for the final major structure on the project, being Lock E in Mississippi, will be let at the end of March of this year; and

WHEREAS, the Tennessee-Tombigbee Waterway, which will link fourteen different river systems to the Gulf of Mexico, will be beneficial to the Nation as it will provide an easily accessible, low-cost, energy-efficient and modern system for transporting vital commodities; and

WHEREAS, during 1986, the first year of full operation of the Waterway, it is projected that 28,000,000 tons of commodities will be moved thereon at an annual savings of $3.28 per ton in transportation costs; and

WHEREAS, the Tennessee-Tombigbee Waterway will provide a direct route for coal which will help the Nation realize its potential for energy self-sufficiency utilizing American coal rather than OPEC oil and will enable the United States to balance trade with other nations, resulting in a strengthened American dollar; and

WHEREAS, it is projected that 21.04 million tons of coal will be moved on the Waterway at an annual savings of $2.89 per ton in transportation costs; and

WHEREAS, it is projected that the average annual savings in transportation costs for all commodities moved on the Waterway in 1986 will be $105 Million and such average annual savings over a fifty-year period will be $121 Million annually; and

WHEREAS, on the completed portion of the Waterway between Aliceville, Alabama, and Mobile, Alabama, 111,420 tons of commodities, including 5,000,000 bushels of wheat and soybeans, were transported last year; and

WHEREAS, the Tennessee-Tombigbee Waterway, as a wise public investment of capital in an underdeveloped area of the Nation, has already won the approval of our free enterprise system as reflected by the investment of nearly half a billion dollars in counties bordering on the Waterway; and

WHEREAS, during peak construction periods, thousands of workers are employed along the Waterway; and

WHEREAS, untold dollars and man-hours have been committed to build new access roads, relocate utilities, and move families and businesses along the Waterway and if this public investment is terminated it will not only result in the loss of money but also will result in an intolerable burden on the people who have been directly affected by the project; and

WHEREAS, the United States will benefit from the economic development to result from construction of the Waterway and the several states of the Nation will benefit from reduced costs of transporting commodities:

NOW, THEREFORE, BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF THE STATE OF MISSISSIPPI, THE SENATE CONCURRING THEREIN, That we do hereby memorialize the Congress of the United States of America to continue to fully fund the Tennessee-Tombigbee Waterway which is, and has been since its inception, a worthwhile project for the public benefit.

BE IT FURTHER RESOLVED, That copies of this Resolution be forwarded to the President of the United States, the Vice President of the United States, the Speaker of the United States House of Representatives, and to the members of Mississippi's Congressional Delegation.

ADOPTED BY THE HOUSE OF REPRESENTATIVES
March 20, 1981

SPEAKER OF THE HOUSE OF REPRESENTATIVES

ADOPTED BY THE SENATE
March 26, 1981

PRESIDENT OF THE SENATE

CLOSING REMARKS

Mr. Wilkins. Mr. Chairman, I would like to ask the record be held open for a reasonable length of time to allow statements for the record of those not presented here today.

Senator Stennis. Without objection, that request is granted.

Mr. Wilkins. Mr. Chairman, this concludes our testimony. At this time, I would like to thank you for you letting us appear before you today and being heard and appreciate it very, very much.

Senator Stennis. Thank you very much. Just a word before you leave. I want to publicly thank Senator Howard Baker of Tennessee who has shown a very fine interest in this project. He couldn't be here this afternoon. He has done much work over the years, and leadership work, too, and he will continue to do that. He is a very able man and fine leader. Congressman Bevill from Alabama, who is chairman of the subcommittee in the House Appropriations Committee, loves this project; he works hard all the time. A whole lot of that time is on this project. He is just an all-around splendid public servant and fine member of that House committee. He has an abundance of talent and experience.

PREPARED STATEMENTS FROM MEMBERS OF CONGRESS

We have statements here, too, by the Senator from Kentucky, Senator Ford, another valuable supporter for this project. I want to thank him, as well as Congressman Natcher and Congressman Edwards. We will get their names in the record. We thank them for their interest and statements.

[The statements follow:]

STATEMENT OF SENATOR WENDELL FORD OF KENTUCKY

MR. CHAIRMAN: I am writing in support of the Tennessee-Tombigbee Waterway. I ask that my letter be printed in the Record for the March 23, 1981 hearing being held by Energy and Water Development Subcommittee of the Senate Appropriations Committee.

The Tenn-Tom is vital to the energy needs of our nation because the increased ability it will give our country to transport coal at cheaper costs. Construction of this valuable project should be expedited.

We must, as other countries have done, turn to coal as one sure means of ending our dependence on OPEC. We joined these countries in a committment made at the recent Venice Summit Conference to double world coal production and use by the 1990's. They are looking to the U.S. to supply much of the coal to meet the demand. In fact, U.S. exports of steam coal soared during the first half of 1980, doubling foreign sales during the same period. Total coal exports (including Canada) for 1979 was 64.7 million, in 1980 exports totaled 89.9 million. Estimated future exports total 140 million by 1996.

Conservative estimates by the Department of Energy estimate export of steam coal for electrical generation could grow to 60 to 79 million tons annually by 1990. Exports at these levels could generate 38,000 new jobs for miners and an additional 190,000 jobs in coal mining communities. Steam coal overseas (not including Canada) totaled 7.5 million and 16 million in 1979 and 1980 respectfully.

We can never accommodate this new commerce until we greatly inprove our inland transportation system and eliminate bottlenecks that already exist. The Tenn-Tom will offer an efficient alternative transportation route for a region that has one-third of all future coal exports, if we are to meet the demand.

Major coal shippers and users recognize the importance of this waterway to their future. With the growing world market for coal, the limited capacity of ports on the West Coast to handle coal and high freight costs in moving it in another direction for export, the completion of the waterway will be an asset to coal shippers and receivers.

The Tenn-Tom will directly link eastern coal fields with the Port of Mobile, Alabama which is the third largest port of coal export in the country. That loading facility capacity is being expanded to handle 20 million tons annually by 1990. Transportation costs of the Gulf ports are competitive with costs of the east coast ports because of the demurrage charges at the latter.

This project provides an excellent opportunity to help our country improve its balance of trade situation. Every ton of coal we export reduces our trade deficit abroad. This is expecially important since we spent some $100 billion overseas last year for oil alone.

I urge you to fund this valuable project which is so very important to the future of this nation.

Statement of Representative Jack Edwards of Alabama

Mr. Chairman, I am pleased to appear before your subcommittee again this year in strong support of the Tennessee-Tombigbee Waterway. It has been gratifying to see this important waterway take shape in the last ten years and I look forward to its completion.

The Tenn-Tom is more than 50% complete and half of the 232-mile waterway is open to navigation from Columbus, Mississippi, southward; contracts have been let for four of five locks; and more than two-thirds of the entire project is committed.

The tremendous scope of the Tennessee-Tombigbee Waterway has created a great deal of criticism. The project has been studied endlessly but because of the full commitment of this Committee and other supporters, it has survived the controversies and made great progress. A 1976 lawsuit was decided in favor of the waterway and we expect the decision will be upheld on appeal. Last year the Congress reaffirmed its support of the project and the Carter Administration initiated a program of rural development planning to benefit the people and Communities along the Tenn-Tom corridor. President Reagan has also endorsed the project.

The Tenn-Tom will have a great economic impact on the Southeast, but since most of its traffic will flow through the Port of Mobile, the State of Alabama and my Congressional District will benefit most substantially. Approximately one of every 11 workers in the State of Alabama is in a job directly or indirectly related to port activities. The Port of Mobile generates about $32 in revenues for every ton of general cargo, and tonnage through the Port of Mobile is expected to double when the Tenn-Tom is completed. The total impact of the waterway on private income through this century is estimated to exceed $4.5 billion. International interest in the Tenn-Tom is increasing as completion nears and the economic impact of that interest is well known.

One of the most important aspects of the Tennessee-Tombigbee Waterway will be its transportation benefits. Transportation savings are anticipated to be $34 million in the Tenn-Tom's first year of completion which is scheduled to be in 1986. Those savings are expected to exceed $500 million by the year 2000. Many major commodities will be transported on the Tenn-Tom, including coal from Alabama and Appalachian coal fields, agricultural products, chemicals, and metallic ore. New public and private inland dock facilities are being strategically located to handle those products. A number of these facilities will be equipped with grain elevators for handling agricultural products.

Swine, poultry, and cattle feeder lot operators recognize the potential the waterway's opening will have on production increases to meet growing consumer demands. The Waterway will allow more barges to bring feed directly to the farmers in our area. Transportation savings will benefit some 14 states. Those transportation savings along the Tenn-Tom also represent major energy savings. The nation's ability to reduce its dependence on imported oil and convert to other energy sources, including coal, depends largely on our having an efficient transportation system. Over 21 million tons of coal are estimated to move on the Tennessee-Tombigbee Waterway, at a savings of more than $54 million during its first year of operation alone -- and waterway transportation is less energy intensive than any other major mode of transportation, including rail, pipeline, truck, and air cargo transportation.

The Tennessee-Tombigbee Waterway is not simply another water navigation project. It is also a regional development project. The Tennessee-Tombigbee Corridor Study, which I support, is being conducted to assess the needs of the 48 counties along the waterway in planning to take advantage of this development. The study will be completed in 1984 and will make recommendations for the use of water and related land resources, for economic development, for the development of human and minority resources, and for the enhancement of environmental quality.

The waterway is undoubtedly a major aspect of our national transportation system. Its growth will directly affect the economic status of all citizens living in its 14-state impact area. Each phase of construction has been highly successful and that success can continue with your support.

The President has requested $201 million in his fiscal year 1982 budget for construction on the Tennessee-Tombigbee and $7.32 million for maintenance. It is vital that this project be fully

funded so that its progress can continue and so that construction will remain ahead of schedule.

Statement of Representative William H. Natcher of Kentucky

MR. CHAIRMAN, I want to thank you for the opportunity to again voice my support for the Tennessee-Tombigbee Waterway Project.

The sum of $204 million is contained in the Fiscal Year 1982 budget for the Tennessee-Tombigbee Waterway Project. The entire project is nearing the two-thirds completion mark and over 74% of the project is already committed to construction contracts. With approval of the $204 million proposed in the Fiscal Year 1982 budget, funding of the total cost of the Waterway will pass the 70% mark.

Today, on the Waterway, nine of ten locks and dams are complete or under construction. Shippers are now using the Waterway and with virtually 132 miles complete, there is limited navigation from Columbus, Mississippi, southward. Over five billion bushels of soybeans have been shipped on the Waterway since navigation began and coal producers and government officials are looking to Tenn-Tom to help the United States compete with foreign sources of coal.

The Waterway, a 232-mile navigation channel connecting mid-America's 16,000 miles of inland waterways with ports along the Gulf of Mexico, will produce many navigation benefits. Fourteen states will immediately realize $82 million in transportation savings, along with reduced transportation costs and increased productivity. In addition to navigation benefits, the Waterway is producing expanded job opportunities plus 13,000 acres of land and 40,000 acres of water for recreational purposes.

The Commonwealth of Kentucky will benefit in many ways by the Waterway. It is expected to influence the economy of much of Kentucky through construction activity, industrial development, public and private port development, recreation, increased activity of area-based tow and barge service and increased economic activity in the region brought about by the Economics of water transportation. In addition, it is expected that there will be 21,000 new jobs above normal growth by the year 2,000 and per capita income for west Kentucky workers by the same year will increase to $10,090 per year.

Our Nation's ability to convert from expensive imported oil to our most abundant energy source, coal, will depend on an efficient transportation network. About 2.5 million tons of Kentucky coal will be shipped the first year on the Tennessee-Tombigbee Waterway. Coal is our Nation's best available resource for resolving our energy supply problems. The Waterway will be able to move coal from producing areas to market at an average savings of about $2.57 per ton. To the extent Tenn-Tom will help facilitate the export of this abundant energy source and help reduce our Nation's critical balance-of-payments problems, this should be viewed as a significant benefit.

MR. CHAIRMAN, I appreciate the opportunity to express my support for the completion of the Tennessee-Tombigbee Waterway Project and urge the sum of $204 million be approved for the Project.

STATEMENT OF REPRESENTATIVE WILLIAM L. DICKINSON OF ALABAMA

Thank you. The Tennessee-Tombigbee is one of our national assets which we certainly must utilize in order to reach the degree of development our forefathers intended us to reach and for which generation yet unborn will be ever grateful. This project should be built because the country demands that it be built. It is a vital asset to the nation. It is an important asset to the national water transportation system. Our request is for $201 million for FY 1982, eleven percent less than requested last year.

Thousands of barges haul corn, wheat and soybeans to Gulf of Mexico ports each year. Farm products account for a tenth of all domestic barge traffic. A major reason for the popularity of barge traffic is because their fuel efficiency keeps costs down.

The 232-mile Tennesse-Tombigbee Waterway, connecting the heartland of America via the Tennessee River with the Gulf, will improve barge traffic and lower transportation costs. It will play an important role in moving agriculture products from this rich farm area. The United States is a major exporter of soybeans which are expected to be a major commodity moved on Tenn-Tom. As completion of the Waterway nears, farmers are switching to production of soybeans and other grain. The agriculture export potential of Alabama and the southeastern region takes on new meaning in light of an increasing global demand for U. S. food to meet the needs of a hungry world.

Alabama agriculture products for export will also be needed by the U. S. to help offset our overall declining balance of trade.

A recent study says the Tennessee-Tombigbee Waterway will offer significant savings to farmers. The first year, 1986, the waterway will move agriculture and food products at a total savings of $3.5 million, or about a $2.91 per ton savings. This study seems to be more than borne out by actual savings of 10 to 15 cents per bushel on the more than 5 million bushels of wheat and soybeans which have been shipped on the new waterway.

The shorter Tenn-Tom route will save energy, time and money by reducing the distance--and the cost--for some inland shippers by more than 800 miles. The Tennessee-Tombigbee is important to the future economic security of, not only Alabama, but much of the nation. I urge continued funding of this important project.

Senator STENNIS. I want to especially thank Mr. Wilkins. He is a workhorse, planner, developer, and doer. You will find a way to get things done. It took me half a day here once to get to the inside of an inner high level, high secret meeting for Members of the Congress only. I finally got in there and the first person was Glover Wilkins sitting over there. I never have found out how he got in. I don't think he knows, but he will get the job done, this long-time executive director.

I believe you were executive director from the beginning, weren't you?

Mr. WILKINS. Yes, sir.

Senator STENNIS. You still have a lot of speed left, you keep going.

Gentlemen, we thank all of you. When you have more, you send it to us.

Mr. WILKINS. Thank you, Senator.

Senator STENNIS. That was a fine presentation. You really helped the record. Your testimony and your presence here will all be of benefit to us in handling this matter. You were over in the House this morning. I have already gotten reports of the good presentation you made over there.

Mr. Whitten and I were on the floor and conversed between the hearing. Thanks again. Next year I believe we will just be doing the marking up. Thank you very much.

We have witnesses here from other groups now. We will get to you in just a minute. The next will be the Coosa-Alabama River Improvement Association, Mr. Robert Henry. We will take a 2-minute recess here.

[A brief recess was taken.]

COOSA-ALABAMA WATERWAY

STATEMENT OF ROBERT HENRY, CHAIRMAN OF THE BOARD, COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION, INC.

Senator STENNIS. Those who wish to leave, we are not telling you to leave, but if you wish to leave, we ask you to leave quietly and promptly.

All right, ladies and gentlemen, we will resume our hearings now. The Coosa-Alabama River Improvement Association will present its testimony. Who is in charge? You proceed in your own way, please.

Mr. HENRY. Thank you, Mr. Chairman. It is just like old times to come and sit before you and your distinguished colleagues in this great committee. We realize time is of essence with you. We are only going to use up just a very, very few minutes.

Senator STENNIS. Take such time as you think you may need. We are delighted to have you.

Mr. HENRY. I am Robert F. Henry, chairman of the Coosa-Alabama River Improvement Association. Mr. Chairman, it was formed in 1890. We have been incorporated for 25 years. There are a lot of us who have been through that over a period of time. We have prepared statements that we would like very much for you to accept for incorporation in the record. We have a statement of the president. We have a statement of different prominent people in enterprises, county, and State governments all up and down the Tensaw River system.

It has done so well so far that we now are close to Montgomery, Ala., to Mobile. It has already proved to be such a big advantage, when we broke ground, the cost-benefit ratio was 1.08 to 1. Today, it is 1.90 to 1 and growing.

That goes to show you, some people are going to come in and start using them. We certainly want to get all the way through the rest of Alabama and on to Georgia, too. This is where we stand on the threshold of going into that era now, putting the locks and dams on the Coosa. We have supported all this. I will move along to tell you, sir, I would like for the elected officers of our association to please stand so you can see who they are: Chris Heinz, president of Coosa-Alabama River Improvement Association; Mary Waite, vice president; Bernell Mooney, vice president from Georgia; and Ray Carlson, our executive vice president.

Senator STENNIS. We are glad to have you here, each one of you. You are so wise to recognize the ladies. After all, they are the ones who run the country.

Mr. HENRY. I won't call anybody else by name, but I would like very much to let you see some of the users and shippers on the Alabama River are present. Will they all please stand, the shippers and users of the Alabama River. [Group standing.]

Senator STENNIS. That is fine.

Mr. HENRY. Now I would like to see the rest of the delegation that has come to see the Coosa-Alabama. [Large group standing.]

Senator STENNIS. There you are. Just look. That is fine.

Mr. HENRY. Senator, would you believe at this point we are willing to yield our time to others, because we feel we are among friends, we are making progress. We are doing everything the present feeling in the country is for. In other words, we are for the supply side of economics. If you get the inventory to the ports, the shippers will come.

As far as the economy is concerned, we are reducing our original program by 20 percent. We are not asking for recreation on some of our facilities that really would mean a lot to the people, but they can be deferred. We are now asking 20 percent less than we did in our first request in writing. So with this, I think, sir, we will confer the rest of our time to others. Thank you for your courtesy.

Senator STENNIS. We are glad to have you here. And you have a worthy project. I am familiar with the project in a general way, and in a special way to some degree. I know where the Coosa River is, the Alabama River. You are not getting construction money, I believe, planning money now, preliminary to construction.

Mr. HENRY. That is right, sir.

Senator STENNIS. I really believe you have a strong case. You are talking now of the part from, from where to where?

Mr. HENRY. Via the Bowing Dam on Lake Jordan and through Lake Mitchell, Logan Martin, and Weiss Dam. That program would mean something to all the people who live along the river banks.

Senator STENNIS. I certainly hope this will come through.

And here is a letter to the chairman of the full committee, Senator Hatfield, from your Governor James in support of this project. Without objection, I ask that that letter be put in the record.

[The letter follows:]

LETTER FROM GOV. FOB JAMES OF ALABAMA

Dear Mr. Chairman:

Since becoming Governor of Alabama, I have seen the grass roots support in our state for maintaining the Alabama River navigation channel and extending that channel on to Gadsden, Alabama and eventually to Rome, Georgia. This waterway is not just important to our state but also to the region and nation as a whole. I have seen how our navigable waterways and the Port of Mobile are part and parcel of the greater national waterway system that is proving daily to be invaluable in our collective effort to beat the energy crunch and revitalize an economic and industrial base.

I fully support the recommendations of Chairman Robert F. Henry and the Coosa-Alabama River Improvement Association. They, like many other responsible citizens, have responded to the leadership of President Reagan and suggested ways that Federal expenditures on their part of the waterway system can be reduced. At the same time they have pointed up those facilities which must be maintained and improved if we are to continue the significant returns now being received from this investment both Federal, State and private.

Extending the present navigation channel from Montgomery to Gadsden, and eventually to Rome, Georgia is a sound investment and has high priority in our plans for the future. We also join our friends in Georgia in supporting investigations of a new multi-purpose reservoir near Dalton, Georgia. This lake could provide reserve water for navigation and other downstream uses on the Coosa-Alabama River System. I also encourage the Corps of Engineers to continue the necessary activities needed for deepening of the ship channel in Mobile Harbor to 55 feet to accommodate deep draft shipping. The $24.9 million recommendation for Operations and Maintenance was carefully considered. Much of this expenditure for Operations and Maintenance is returned to the Federal Treasury through the sale of power from the four hydro-electric plants involved.

I was a businessman until I was elected Governor a little over two years ago; I know from experience that you must maintain your facilities and stick with your capital investment program if you are going to show a profit and maintain a viable operation. On our waterways the profits come in reduced freight rates, significant energy savings, and an economical way to move bulk materials without punishing our deteriorating highway and roadbed systems. The funds requested for Fiscal Year 1982 represent good sound business practice.

ADDITIONAL PREPARED STATEMENTS FROM MEMBERS OF CONGRESS

Senator STENNIS. The subcommittee has also received statements from Senator Heflin and Congressmen Jack Edwards and Bill Dickinson of Alabama. These statements will be placed in the record at this point.

[The statements follow:]

STATEMENT OF SENATOR HOWELL T. HEFLIN OF ALABAMA

MR. CHAIRMAN, OTHER WATERWAY ITEMS IN THE BUDGET FOR THE 1982 FISCAL YEAR INCLUDE $2,509,000 FOR OPERATION AND MAINTENANCE ACTIVITIES FOR THE FOLLOWING PROJECTS: BAYOU CADEN, BAYOU LA BATRE, BON SECOUR, DAUPHIN ISLAND BAY, PERDIDO PASS, THE GULF INTRACOASTAL WATERWAY, AND THE DOG AND FOWL RIVERS.

ALSO, INCLUDED IN THE BUDGET IS A REQUEST FOR $49,000 TO REMOVE AQUATIC GROWTH ON NAVIGABLE STREAMS IN OUR STATE.

IN CLOSING, I SHOULD LIKE TO COMMENT BRIEFLY UPON THE BUDGET REQUESTS FOR THE APALACHICOLA-CHATTAHOOCHEE-FLINT RIVER SYSTEM. THE BUDGET FOR THE 1982 FISCAL YEAR CALLS FOR $7,320,000 IN OPERATION FUNDS AT THE WALTER F. GEORGE LOCK AND DAM AND $3,153,000 FOR SIMILAR ACTIVITIES AT THE WEST POINT LAKE PROJECT.

AS THIS COMMITTEE KNOWS, THIS WATERWAY HAS EXPERIENCED SEVERE NAVIGATION PROBLEMS IN RECENT YEARS. THERE IS NO DOUBT THAT THIS RIVER BASIN IS IDEAL FOR GROWTH, BUT COMMERCIAL USERS OF THE WATERWAY MUST HAVE THE ASSURANCE OF NAVIGATION ON A TWELVE MONTH BASIS.

UNFORTUNATELY, INTERSTATE DISAGREEMENTS CONCERNING THIS WATERWAY HAS LIMITED THE BENEFITS THE RIVER SYSTEM CAN BRING TO THE PEOPLE OF THE WATERSHED. HAPPILY, THE GOVERNORS OF THE STATES OF ALABAMA, GEORGIA AND FLORIDA HAVE REACHED A MEETING OF THE MINDS THROUGH THE ESTABLISHMENT OF A TASK FORCE WHICH IDENTIFIED AND PROPOSED SOLUTIONS TO THE MYRIAD OF PROBLEMS SURROUNDING THE ENDEAVOR TO INSURE YEAR ROUND NAVIGATION ON THE WATERWAY.

IN THE ADMINISTRATION'S BUDGET FOR THE 1982 FISCAL YEAR, THERE IS A REQUEST IN THE AMOUNT OF $3,635,000 IN OPERATION AND MAINTENANCE ACTIVITIES FOR THE APALACHICOLA-CHATTAHOOCHEE-FLINT RIVER SYSTEM. I STRONGLY URGE APPROVAL OF THIS ITEM. ADDITIONALLY, I WOULD HOPE THAT THIS COMMITTEE WOULD CONSULT WITH OFFICIALS OF

THE ARMY ENGINEERS REGARDING THE NEED FOR APPROVING FUNDS FOR THE REMOVAL OF ROCK LEDGES WHICH SET THE CONTROLLING DEPTH IN THE RIVER SYSTEM DURING LOW FLOW. IT IS MY UNDERSTANDING THAT THE U. S. FISH AND WILDLIFE SERVICE CAN ADVISE THE ARMY ENGINEERS ON THE PROCEDURE WHICH MUST BE FOLLOWED IN CONNECTION WITH THE ROCK REMOVAL WHEREBY FISH PROPAGATION WILL NOT BE ENDANGERED.

THANK YOU.

STATEMENT OF REPRESENTATIVE JACK EDWARDS OF ALABAMA

COOSA-ALABAMA RIVER SYSTEM

Mr. Chairman, thank you for giving me this opportunity to appear before your Committee to testify in support of the fiscal year 1982 appropriations request for the Coosa-Alabama River System.

For operation and maintenance along the Coosa-Alabama River System, $24.961 million is needed in fiscal year 1982. That funding would be broken down into the following projects: Alabama River in Alabama ($4,673,000), Jones Bluff Lock and Dam ($3,615,000), Millers Ferry Lock and Dam ($5,569,000), Mobile Harbor ($5,044,000), Allatoona Lake, Georgia ($4,050,000), and Carters Lake, Georgia ($2,010,000). The Administration has requested lower levels of funding for these separate projects for a total of $19.413 million. I seek your consideration of the funding level needed, however, since the Coosa-Alabama River System must be sufficiently maintained if we are to fully realize its economic and navigational benefits.

The Administration has requested funding for construction projects at Jones Bluff Lock and Dam and Allatoona Lake but that amount totalling $4,889,000 is no longer considered necessary for fiscal year 1982. No funds have been requested for construction of the Theodore Ship Channel, which has in the past received substantial appropriations, so that no appropriation will be sought for construction on the Coosa-Alabama River System in fiscal 1982. As you know, the fiscal 1981 construction funding request was for more than $20 million

Another area of special concern is the Coosa River Navigation Project. The Administration did not include this project in its budget request, but the Corps of Engineers has indicated its capability is $3 million to continue the Advanced Engineering and Design work currently underway on the project. The Coosa River Navigation Project will extend the navigation channel from Montgomery to Gadsden with construction scheduled to begin in 1983. In addition to this request, I also urge your full consideration of $700,000 for the survey of deepening Mobile Harbor and $700,000 for a survey of Dalton Lake, Georgia.

Mr. Chairman, I appreciate the Committee's past support for the Coosa-Alabama River System and hope for your continued support.

STATEMENT OF REPRESENTATIVE WILLIAM L. DICKINSON OF ALABAMA

Mr. Chairman and Members of the Committee, thank you again for the priviledge of presenting my views to you regarding the development of the Alabama-Coosa River Waterway.

As you know, the state of Alabama is blessed with a great network of approximately 1,600 miles of navigable waterways. We need to continue the great work that the Congress has funded in the past that will in the fututе connect all of those waterways with the Tennessee and the remainder of our inland waterway systems. I think it is noteworthy that the original budget needs for this project has been cut 24 percent to help accommadate President Reagan's spending cuts for the entire federal budget.

Specifically, I am before you today to recommend your approval of FY 1982 appropriations for the Alabama-Coosa river system that will continue ongoing work on that system. A study of the Coosa navigation project concludes that total benefits will far exceed total costs and that planning and construction on the Coosa River should go forward, to obtain the maximum benefit from the investment we already have in the system. The economic benefits of the Coosa Project clearly indicate that the sooner construction begins, the sooner the great economic and social benefits will be realized. Our near natural waterways, certainly including the Coosa, are the most energy efficient and least environmentally disruptive modes of transportation -- to the benefit not only of our nation, but to the entire nation.

As you know we now have a nine foot navigation channel open from Mobile to the lowermost Coosa River Dam, approximately 27 river miles above Montgomery. We have had commercial river traffic to Montgomery since the spring of 1972 when Jones Bluff Lock and Dam was opened.

Relatively small amounts of money are needed to carry forward the advanced engineering and design work now underway for the Coosa River Navigation Project. If this work stays on schedule construction can start in 1983.

The following requests for Fiscal year 1982 are shown by category and amount:

SURVEYS--A reservoir at Dalton, on the headwaters of the Coosa, would provide needed storage water to maintain navigation depths on the lower Alabama River. The Mobile Harbor must be prepared to take deep draft ships as soon as possible.

Dalton Lake, Dalton, Georgia	$700,000
Mobile Harbor Deepening	$700,000

ADVANCE ENGINEERING AND DESIGN--The Coosa Project will extend the navigation channel from Montgomery to Gadsden, and eventually to Rome, Georgia. Preconstruction planning has been underway since 1978 toward a start date of March 1983. This project is a solid investment in future productivity and economic progress.

Coosa River Navigation Project	$3,000,000

CONSTRUCTION--In recognition and support of the President's attempts to limit federal spending, construction of recreation facilities can be postponed. This reduces the amount requested (as compared with the original budget) by $4,889,000.

Allatoona Lake, Georgia	-0-
Jones Bluff Lock and Dam, Georgia	-0-

OPERATIONS AND MAINTENANCE--The first four projects involve navigation facilities. The funds requested are for the full capability of the Corps of Engineers to insure that these four energy efficient facilities are fully serviceable. Navigation is not involved directly at Allatoona and Carters Lake. The lessor amount for these last two projects (as compared with the original budget) is sufficient to operate and maintain these vital sources of hydro-electric power. This reduces the amount we would have requested for O&M by $2,857,000.

Alabama River, AL	4,673,000
Jones Bluff Lock & Dam, AL	3,615,000
Millers Ferry Lock & Dam, AL	5,569,000
Mobile Harbor	5,044,000
Allatoona Lake, Georgia	4,050,000
Carters Lake, Georgia	2,010,000

I would again like to use this opportunity to commend the excellent foresight, planning and work that has been carried on by the Corps of Engineers and the Coosa-Alabama River Improvement Association, Inc., chaired by my good friend, Dr. Robert F. Henry of Montgomery.

I earnestly urge the Committee to recommend this funding so that these important projects, which will one day greatly enhance the economy of our region and the entire nation, can continue.

Senator STENNIS. We can't give you too much encouragement. There is not a whole lot of money this year for new starts.

Mr. HENRY. Yes.

Senator STENNIS. But we hope that there will be a revival of the water projects throughout the Nation, because it has been lagging now for several years and it must be revived, and I think it will be. It takes time. But you will be up front, I think, when we get a real program going in construction.

Mr. HENRY. That is fine.

Senator STENNIS. Get the planning done now, the preliminaries. You will be getting benefits from it.

Mr. HENRY. It takes a lot of planning, Senator, even for the first lock, because it will be 84 feet wide, 600 feet long, and 127 feet high. It will be the highest lock in the United States.

Senator STENNIS. Don't get discouraged. This Tennessee-Tombigbee has been under construction itself a good while. Any project, you go across the country anywhere, and you see these fine projects, they all had some kind of trouble getting started or something developing before they were finished, money got short, there were delays. If the people had given up, we wouldn't be there today, but they stayed with it, kept fighting for it, kept planning and kept pushing.

Mr. HENRY. Senator, I think what it takes is what Churchill said when he went back to the reunion of his class. He said, "I want to make a very short speech. It will only be seven words long: Never, never, never, never, never give up."

Senator STENNIS. Yes; that is good. That is a mighty good note you sounded, too. Thank you again, all of you. Come back next year.

[The statements follow:]

STATEMENT OF ROBERT F. HENRY, CHAIRMAN OF THE BOARD, COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION, INC.

Mr. Chairman and distinguished Committee members:

Thanks to you and your predecessors in the Congress the Alabama-Coosa River system has been improved in many tangible, productive ways This is my twenty-fifth consecutive year to testify on behalf of the citizens of our region. The money which has been appropriated has been well spent. We now have commercial navigation on half of the waterway, with pre-construction planning progressing on a significant extension of the navigation channel to Gadsden, AL. While our primary emphasis over the years has been building the navigation channel, first from Mobile to Montgomery and now on to Gadsden and Rome, GA, we now give similar priority to protecting and maintaining what has been built. We must be good stewards of the facilities that are already on line and bringing much more than the anticipated return.

Our requests for Fiscal Year 1982 funding are listed below:

I.	Surveys	
	Dalton Lake, Dalton, GA	$ 700,000
	Mobile Harbor Deepening	700,000
II.	Advance Engineering and Design	
	Coosa River Navigation Project	3,000,000
III.	Construction, Recreation facilities	
	Allatoona Lake, GA	-0-
	Jones Bluff Lock & Dam,GA	-0-
IV.	Operations and Maintenance (O&M)	
	Alabama River, AL	4,673,000
	Jones Bluff Lock and Dam, AL	3,615,000
	Millers Ferry Lock and Dam, AL	5,569,000
	Mobile Harbor	5,044,000
	Allatoona Lake, GA	4,050,000
	Carters Lake, GA	2,010,000
	Total O&M	$24,961,000

We are well aware that our nation is attempting to steer a new course, a course which involves a significant reduction in Federal expenditures. We support this attempt and we have identified construction elements of the budget that can be deferred. At the same time, we are as convinced now as any time in our Association's 90 year history of the critical importance of these navigation facilities. Water transportation makes it possible to conserve scarce energy and efficiently move the basic, bulk cargoes which sustain our economy and way of life.

In our recommendations we give funding priority to navigation. For example, the amounts we recommend for Operation and Maintenance of the Allatoona and Carters reservoirs are reduced because they do not have a direct impact on navigation. The funds recommended are sufficient to maintain these vital hydro-electric facilities. In addition we recommend deferring construction of recreation facilities at Allatoona Lake and Jones Bluff. Deferring construction is a reduction of $4.889M from the Carter budget amounts for these projects. Our not recommending the Corps capability figures for O&M at Allatoona and Carters adds up to $2.857M. This represents a total reduction of more than one-fifth ($7.746M) from what we would have otherwise recommended.

The Coosa River Navigation Project is the next immediate step in extending our navigation channel beyond Montgomery, AL. We support the Corps of Engineers' request for $3,000,000 to continue Advanced Engineering and

Design. This aspect of pre-construction planning is well underway and the Corps of Engineers is still on schedule to be ready for construction in March, 1983. Design of the five locks is well along and we understand that the Environmental Impact Study (EIS) is also on schedule. This Coosa Project has the enthusiastic support of our citizens. Many of the members of our delegation with us today are located on the stretch of the waterway upstream from Montgomery, AL. Elected officials and private citizens alike testify to the priority given to this project in our region.

For Operation and Maintenance of the four projects that directly contribute to navigation (Alabama River, Jones Bluff, Millers Ferry and Mobile Harbor) our recommended funding is for the full capability of the Corps of Engineers. We must insure that these facilities are fully serviceable. Included in this category are funds for adequate maintenance dredging.

Dredging is an area which has caused trouble. We expected a period of adjustment might be needed after the Corps of Engineers lost their own dredges in the Mobile District. The Industry Capability Program which makes maximum use of dredging contracts has only been in operation for three years. Unfortunately we had unusual low water and shoaling problems in two of those years, 1978 and 1980. While we support the concept of using private industry whenever possible, many users of our waterway are not yet convinced that the Corps can handle emergency situations without some in-house dredging capability. We are assured by the Mobile District that the funds we are supporting will be adequate but we will continue to keep a close watch on this maintenance dredging program.

As I said before, we recommend postponing construction of recreation areas at Allatoona and Jones Bluff. We do do this reluctantly. In 1980 Lake Allatoona ranked fourth in visitors among 426 Corps of Engineers lakes nation-wide with a total of more than 12 million visitor days. There is no question that these facilities are used and enjoyed. The Jones Bluff recreation projects are all that remain of the Alabama River Project which included three locks and dams and two generating facilities.

As additional support for our recommendations we bring with us letters and resolutions from a wide sampling of the membership of our Association. These statements are submitted to show the broad base of support and citizen awareness that development of these projects enjoys.

At the outset I said that this was my 25th consecutive year to come to the Congress to testify in support of this waterway. I had come many times before this current string of appearances started, going back to 1941 when I was in the delegation as a representative of the Montgomery Chamber of Commerce. Over this span of nine Presidents of the United States, President Reagan's is not the first administration to take a close look at Federal expenditures. While this administration has also proposed increased user charges to offset Federal expenditures, there has been no suggestion that waterway expenditures were not justified, as we had with President Carter's "hit list" four years ago. We are confident that this new administration will agree with my statement in last year's testimony, "The projects we support represent a capital investment, the kind of investment private industry, and a nation looking to the future, must make if they are to be productive."

The navigable waterway our predecessors visualized when they founded this Association in 1890 is even more urgently needed now. Ninety years ago they were proposing solutions to our present need for transportation efficiency.

"Supply-side" economic theory has been used as a basis for changing our nation's economic course. For those urging capital investment in our national waterway system this is good news indeed. Now we have an acceptable explanation of why the projected Benefit/Cost Ratios for waterway projects have historically been so conservative. It is just too difficult to anticipate all the ways a new waterway will be used until the "supply" - in our case a navigable channel - is in place and available.

Our Alabama River calculations are a good example. In 1958, before the navigation channel to Montgomery was started, the Corps of Engineers used the accepted methods to come up with a Benefit to Cost ratio of only 1.08 to 1.0. In 1979, only 6 years after the last lock, dam and generating plant went into operation, the B/C ratio was 1.9 to 1.0. We saw paper mills locate on the river that had not been there before, we saw new markets develop. Plants that were built to use other modes of transportation were modified to make use of the river once the channel was completed. In other words, once the product - the supply - was there the demand surfaced. Enterprising business men found innovative ways to use the river that even they had not anticipated until this new transportation option was a reality.

We understand that a main point of the supply side argument is that "whatever encourages greater human output is anti-inflationary". (Wall Street Journal editorial, February 26, 1981). This thrust to increase productivity again supports the logic of investment in our waterways. The railroads report that 50¢ of every revenue dollar goes for labor costs while the comparable figure for the barge industry is 20¢. Our nation needs a strong and viable railroad industry but it also needs to make optimum use of the transportation modes, including the combinations of modes that are the most economical both in energy and manpower productivity.

There is some concern on our part that, in the surge of support for reduced expenditures, the role of water transportation in reaching other important national goals might be forgotten. For example, water transportation can encourage economic development of interior regions such as the Appalachian Region where our river system originates. Also, water transportation can sustain vital inland industries like the steel and rubber plants in Gadsden, AL with their large industrial payrolls. Another example is the role water transportation plays in our balance of payments equation by supporting an expanded and competitive export program of coal and farm crops. We feel confident that members and staff of this subcommittee understand but we want the record to reflect our concern. The contribution of commercial water transportation toward our total national strength must not go unnoticed.

This statement is made for an association - the Coosa-Alabama River Improvement Association - made up of both a public and a private sector. The public sector consists of eighteen counties along the waterway from Mobile, AL to Rome, GA (Floyd County) and nineteen municipalities. This public sector joins forces with a private sector in a way mindful of the "Partnership" theme in President Eisenhower's Administration. The private sector is made up of manufacturing, mining, financial and agricultural firms, shippers, tow and barge operators, chambers of commerce and other industrial development agencies, public utilities, media organizations and more than 100 private individuals.

On behalf of our membership and the citizens they represent I thank you for your consideration.

COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION'S DELEGATION APPEARING BEFORE THE SENATE SUBCOMMITTEE ON APPROPRIATIONS FOR ENERGY AND WATER DEVELOPMENT HEARINGS-2:00 P.M., MARCH 23, 1981.

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1. Dr. Robert F. Henry, Chmn. of the Bd., CARI Association, Montgomery, AL
2. Honorable Fob James, Governor, State of Alabama, Montgomery, AL
3. Gene Mitchell, Public Safety Dept., State of Alabama, Montgomery, AL
4. Chris B. Heinz, President, CARI Association, Selma, AL
5. Mrs. Mary George Jordan Waite, Vice Pres. CARI Association, Centre, AL
6. Mr. Burgett H. Mooney, Jr., Vice Pres. CARI Association, Rome, GA
7. Tom Brock Jordan, Commissioner, Cherokee County, Centre, AL
8. Ellis Austin, Businessman, Wetumpka, AL
9. Melvin Curlee, Commissioner, Elmore County, Wetumpka, AL
10. Melvin Taylor, Commissioner, Elmore County, Tallassee, AL
11. Leroy Coker, Sr., Commissioner, " " " "
12. Mrs. Jeanette Barrett, City of Wetumpka Council, Wetumpka, AL
13. Mrs. Glenn Rounsewell, Housewife, Falls Church, VA
14. Sid Willingham, Insurance and Real Estate, Rome, GA
15. Virginia Willingham, Housewife, Rome, GA
16. G. T. Nelson, Vice Pres., Ind. Dev., AL Power Company, Birmingham, AL
17. Jerry Martin, Mississippi Chemical, Pascagoula, MS
18. Tom Wade Hampton, President, Cherokee County Commission, Centre, AL
19. Harold Day, Commissioner, Cherokee County Commission, Centre, AL
20. Joel W. Barfoot, Commissioner, Montgomery County Commission, Pike Road, AL
21. David Stockman, Deputy Administrator, Montgomery Co. Comm., Montgomery, AL
22. Hugh H. Williamson, Mayor, Pell City, AL
23. Paul Turner, Mayor Pro Tem, Pell City, AL
24. Forrest A. Walls, Councilman, Pell City, AL
25. Barnett Lawley, Councilman, Pell City, AL
26. Keith Porter, Councilman, Pell City, AL
27. H. Edwin Holladay, Circuit Judge, 30th Circuit, Pell City, AL
28. Carl Collins, Chamber of Commerce, Rome, GA
29. Harold Hunter, Businessman, Rome, GA
30. Jerry Dunwoody, City Commission, Rome, GA
31. Marrion B. Rambeau, Mobile Area Chamber of Commerce, Mobile, AL
32. Dr. James H. McClendon, Chairman, St. Clair County Commission, Ashville, AL

33. Sheldon L. Morgan, Banker, Mobile, AL

34. Jim Ludwig, Southern Services, Birmingham, AL

35. Dick Fifield, Farm Bureau Insurance, Montgomery, AL

36. Jerome Drummond, Drummond Coal Co., Birmingham, AL

37. Tim Parker, Jr., Parker Towing Co., Tuscaloosa, AL

38. Ed Hodder, Jim Walters Associates, Birmingham, AL

39. Nick Barchie, Warrior & Gulf Navigation, Mobile, AL

40. Robert H. Coleman, Radcliff Materials, Mobile, AL

41. Otha Lee Biggs, Probate Judge, Monroe County, Monroeville, AL

42. Kenneth B. Fairly, AL River Pulp Co., Inc., Monroeville, AL

43. Jimmy Swanson ~~Charlie Deer, Tax Collector~~, Monroe County, Monroeville, AL

44. Bernard A. Reynolds, Selma & Dallas Co. Chamber of Commerce [redacted], Selma, AL

45. John Thomason, Ideal Basic Industries, Cement Div., Mobile, AL

46. Jasper Fielding, Probate Judge, Coosa County, Rockford, AL

47. H. R. Winton, Insurance, Gadsden, AL

48. Tommy Ford, Dir. of Development, Coosa River Action Council, Gadsden, AL

49. Harold E. Johnson, President, " " " " " "

50. George Sizemore, Commissioner, City of Gadsden, AL

51. Michael Sizemore, Student, Gadsden, AL

52. Jim Hopper, Hopper Telephone Company, Altoona, AL

53. Joe Hopper, " " " " "

54. Floyd Beddingfield, Gadsden Airport Authority, Gadsden, AL

55. A. S. "Bebo" Klyce, Gadsden Metro Chamber of Commerce, Gadsden, AL

56. Linda Klyce, Housewife, Gadsden, AL

57. Wendell Bryant, Commissioner, Etowah County Commission, Gadsden, AL

58. Howard McCullars, Insurance, Gadsden, AL

59. Marty McCullars, Housewife, Gadsden, AL

60. Robby McCullars, Student, Gadsden, AL

61. Barney Leach, Leach Manufacturing Company, Gadsden, AL

62. Betty Leach, Housewife, Gadsden, AL

63. Andrew Leach, Student, Gadsden, AL

64. Bobby Baker, Banker, Gadsden, AL

65. Max Smith, Businessman, Gadsden, AL

66. J. W. Griffith, Businessman, Gadsden, AL

67. Ray Ford, Mayor, Ragland, AL

68. Gary Daffron, Businessman, Gadsden, AL
69. Bob Moman, AL Gas Corporation, Gadsden, AL
70. Karen Brooks, City of Gadsden, Gadsden, AL
71. Martha Elrod, " " " " "
72. Linda Vinson, Businesswoman, Gadsden, AL
73. Bill Summerlin, Hospital Executive, Gadsden, AL
74. Roger Dreyer, Businessman, Gadsden, AL
75. Frank Shew, Businessman, Gadsden, AL
76. Larry Payne, Insurance, Gadsden, AL
77. Tom Batey, Batey-Sanders Construction Company, Gadsden, AL
78. Harry McLendon, American Nat'l. Bank, Gadsden, AL
79. Mayor W. A. Coleman, Riverside, AL
80. Mrs. W. A. Coleman, Housewife, Riverside, AL
81. C. R. Carlson, Exec. Vice President, CARI Association, Montgomery, AL
82. Ada W. Paravicini, Adm. Asst., CARI Association, Montgomery, AL
83. J. W. Hampton, Businessman, Centre, Al.
84. Myra Hampton, Housewife, " "
85. Irby Keener, attorney, Centre, Al.
86. Kerry Newman, Republic Steel, Washington, D.C.
87. Dan C[illegible]kler, Banker, Childersburg, Al.
88. Susie Cleckler, Housewife, " "

STATEMENT OF NICHOLAS J. BARCHIE, JR., VICE PRESIDENT, WARRIOR & GULF NAVIGATION CO.

Dear Senator Hatfield:

Warrior & Gulf Navigation Company is the largest barge line operating in the State of Alabama. Our main office is located in Chickasaw, Alabama and we employ approximately 250 personnel. We presently operate 22 towboats and 270 barges both open and covered hopper types. As in the past, we again have been asked by the Coosa-Alabama River Improvement Association to express our view on continuing efforts to improve the Coosa-Alabama River System.

In 1980 we moved approximately 7.5 million tons of cargo of which 100,000 tons moved off the Coosa-Alabama River System. We are constantly receiving inquiries on movement of cargo off the Coosa-Alabama River System but we continue to be stymied in being competitive with other modes of transportation because of the widely fluctuating river stages and uncontrolled depths on the lower reaches of the Alabama River that restricts being able to load barges year round to an 8½ to 9 foot draft which is necessary to remain competitive with other modes. All other waterways within the state of Alabama and outside the state of Alabama allow for year round operation at 9 foot draft with some occationsl exceptions.

The severity of the energy shortage in the world demands that wherever possible, conservation of energy is a must. It has been proven that water transportation is the most fuel efficient of all modes of transportation. In fact, studies show it is three times more efficient than railroads and ten times more efficient than trucks.

In closing, we feel it is evident that the area served by a practical year round navigable water system will reap benefits of commerce and trade that will far outweigh the cost of making needed improvements. We wholeheartedly endorse the funding requested for the Coosa-Alabama Water System in FY 1982.

STATEMENT OF JAMES A. PIERCE, DIRECTOR OF TRANSPORTATION, MISSISSIPPI CHEMICAL CORP.

Dear Senator Hatfield:

We wish to voice our support for the Coosa-Alabama River Improvement Assn. in its efforts to maintain and upgrade conditions on the Alabama River. Please consider this letter as our testimony in a joint effort with other shippers and users, outlining Mississippi Chemical's dependence on this river system for the movement of its products.

Mississippi Chemical Corporation is a manufacturer and shipper of commercial fertilizers, with its plant located at Pascagoula, Mississippi on the Gulf Intracoastal Canal. Mississippi Chemical is a farmer-owned cooperative, with its production being for the use of its farmer owners.

In order to have fertilizers available for prompt service, in 1973 a 22,000 ton storage/distribution facility was established at Montgomery, Alabama on the Alabama River. A considerable freight savings is realized by being able to ship to this storage facility by barge as compared to other modes. These freight savings are passed on to the farmer-customers in the form of lower priced fertilizers.

Shipments through the Montgomery facility vary according to the conditions of the river and the availability of water for barge transportation. For the past six years, annual shipments have ranged from 30,000 tons to 43,000 tons. With year-round nine-foot navigation, this tonnage would be considerably higher.

A dependable supply and prompt delivery capabilities during the critical planting seasons is absolutely necessary, and without available navigation on the Alabama River, Mississippi Chemical as well as its thousands of farmer-stockholders would be severely hampered in the movement of its fertilizers. Mississippi Chemical is, therefore, vitally interested in the continued maintenance and improvements to the Alabama River. It is imperative that necessary monies be appropriated to maintain this valuable waterway, and your support and efforts in this regard are earnestly solicited.

STATEMENT OF TOMMY FORD, DIRECTOR OF DEVELOPMENT, GADSDEN (ALA.) METRO CHAMBER OF COMMERCE

Dear Senator Hatfield:

On behalf of over 700 business and industrial members of the Gadsden Metro Chamber of Commerce, we strongly urge and support the appropriation of $3 million to continue the pre-construction planning for the Coosa River Navigation project; $700,000 for studies to investigate deepening the Mobile Harbor channel to 55 feet and $700,000 to study the feasibility of a new multipurpose dam on the headwaters of the Coosa River near Dalton, Georgia.

In addition, we urge approval of a total of $24,961,000 in operations and maintenance funds for six projects: Alabama River ($4,673,000), Jones Bluff Lock and Dam ($3,615,000), Millers Ferry Lock and Dam ($5,569,000), Mobile Harbor ($5,044,000), Allatoona Lake, Georgia ($4,050,000) and Carters Lake, Georgia ($2,010,000).

As you know, economic evaluations requested by the Congress and completed by the U.S. Army Corps of Engineers have justified the development of the Coosa River, and the requested appropriation is warranted. Under the Water Resources Act of 1976 and the criteria established, the Coosa River project is very feasible on the basis of the cost-benefit ratio, and the Chamber enthusiastically endorses that these advanced engineering and design studies be completed.

The Chamber applauds the desire of Congress to continue the development of the economic potential of our waterways and endorse the use of strict criteria and a businesslike approach to justify the development of water resources. The Coosa River project meets the standards and criteria of all existing laws and regulations and we encourage its development.

On behalf of the Gadsden Metro Chamber of Commerce, we look forward to your approval of the requested appropriations.

STATEMENT OF JUDGE OTHA LEE BIGGS, PRESIDENT, MONROE COUNTY (ALA.) COMMISSION

Dear Senator Hatfield:

The Monroe County Commission of Monroe County, Alabama, respectfully requests that the budget amounts as requested to continue the development of the Coosa-Alabama Rivers projects be approved.

The development of the Coosa-Alabama is already attracting industry creating many needed job opportunities in Alabama. But, the full economic impact will not be achieved until navigation is completed from Rome, Georgia, to Mobile, Alabama. Two industries in Monroe County, Alabama, (the location of the Claiborne Lock and Dam) are dependent on barge transportation and maintenance dredging is essential to keep the navigation open for barging during low water months. Alabama River Pulp, Inc., barges pulp to the port of Mobile for export and Ideal Basics, Inc., has begun barging limestone from the quary site in Monroe County, Alabama, to its new $276 million dollar cement plant at Theodore, Alabama, and will be barging 2,700,000 tons of limestone annually to support this new plant facility. Barge transportation brings an increase in productivity, which is a requirement to fight inflation, requiring less fuel and less labor than other transportation modes.

In addition to money requests for the Alabama River section of this waterway system, funding requests for the Coosa River Navigation Project is needed to stay on schedule for start of construction in 1983. This project is an investment in the future prosperity of Alabama, the Region, and the Nation.

STATEMENT OF M. WAYNE ZEIGLER, EXECUTIVE DIRECTOR, ROME-FLOYD COUNTY, GA., INDUSTRIAL DEVELOPMENT COMMISSION

Dear Senator Hatfield:

The Rome-Floyd County Industrial Development Commission recognizes the tremendous economic benefit for the Rome-Floyd County area that would result from the completion of the Coosa-Alabama Navigation Project from Mobile, Alabama to Rome, Georgia. We urge you and your subcommittee to support and continue the funding for this vital project. Please proceed with the engineering and design work for the Gadsden, Alabama to Rome, Georgia section of this project.

We, here in Rome, feel that this project is essential for the Rome area to realize its full development potential.

Thank you for your continued cooperation and support.

LETTER FROM MARY GEORGE JORDAN WAITE, CHAIRMAN, PRESIDENT, AND CEO VICE PRESIDENT, COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION

March 23, 1981

The Honorable Mark Hatfield
Chairman
Subcommittee on Appropriations for
Energy & Water Development
United States Senate
Washington, D. C. 20510

Dear Senator Hatfield:

This letter is to respectfully request your consideration in supporting the budget requests for the Coosa-Alabama River Improvement. There are some specific needs in making the Coosa-Alabama Rivers navigable from Rome, Georgia to the Port of Mobile.

We also support survey money which was formally called general investigations to determine the feasibility of a new multi-purpose dam on the Conasauga River near Dalton, Georgia.

A. Our Coosa River Navigation Project money is needed in order to stay on schedule for beginning construction in 1983. Our county considers this a real investment in the future prosperity of Alabama, the entire Southeast Region, and our Nation.

B. The Alabama River money supports essential maintenance dredging.

C. Hydropower and barge transportation can provide real important energy during the energy crisis that we are all experiencing.

D. Productivity can be increased with barge transportation which we feel would help to fight inflation, less fuel and less labor are used for barge transportation than for any other transportation modes.

Being in the banking business, I feel strongly that the continued development of the Coosa-Alabama's waterway system would be an economic boost, would help lower costs, would provide job opportunities for our people, and would be an overall incentive for growth and progress.

Sincerely,

Mary George Jordan Waite

(Mrs.) Mary George Jordan Waite
Chairman, President, and CEO
Vice President, Coosa-Alabama
River Improvement Association

STATEMENT OF JOHN C. THOMASON, ASSISTANT TO THE PRESIDENT AND PROJECT DIRECTOR, IDEAL BASIC INDUSTRIES

Dear Mr. Hatfield:

This statement is prepared pursuant to Appropriation subcommitte hearings for the fiscal year 1981 and, more specifically, in support of continued funding of the Coosa-Alabama River system for which testimony will be received on or about this date.

In substantiation of our interest in and dependency upon this waterway, Ideal Basic Industries is presently concluding construction of a $250 million cement plant south of Mobile and a $30 million supportive limestone quarry in Monroe County. Our plant is located in the Theodore Industrial Park (on the inland route of the Theodore ship channel, Mobile Harbor, some 12 miles south of Mobile) and is projected to be operational in June of this year. Our quarry (Marshall's Bluff, Mile 54, the Alabama River) is now in the start-up phase with limestone shipments in progress to the Theodore plant so as to build up a raw material stockpile. On an annual basis, our limestone shipments will approximate three million tons which is more than double that of currently prevailing traffic on the Alabama River.

The water link between Ideal's quarry and plant encompasses a distance of some 114 miles and includes segments of the Alabama and Mobile Rivers and Mobile Bay, approximately as follows: Alabama River, 53 miles; Mobile River, 45 miles; and, Mobile Bay, 16 miles. The Mobile River and Mobile Bay portions of this route pose no navigational problems for our company as these fall along a major traffic artery, maintained at authorized project depths on a year-round basis.

While the Alabama River has an authorized project depth of nine feet, and at this level would be sufficient for Ideal's barge movements of limestone from the quarry to the plant, this draft historically has been available to commercial traffic for only nine months of the year. In illustration, during the late summer and early fall, there typically is a 100 day period of "low water" when River depths are less than eight feet which, in turn, restricts usable barge drafts to about seven feet. Conversely, a "high water" period in the spring months produces swift currents on the River making navigation, with a loaded tow, difficult on several critical and narrow bends. Ideal has committed to sizable capital and operating cost tradeoffs to become operational on the River in the near term, neither of which would have been necessary if the authorized project depth was available year round. Principal among these are: a Theodore plant design, incorporating a 400,000 ton (47 day supply) emergency limestone stockpile, to keep the plant operational during the seasonable low water period; and, the provision for a substantially larger marine flotilla (twenty barges and three towboats) than would be required were it not predictable that this fleet of vessels will be needed to sustain plant inventories during the months of September, October and November (i.e., our annual limestone movement could probably be accomplished with eighteen barges and two tugs at a nine foot draft, available over a full twelve month year).

The Corps' Mobile office is cognizant of the aforementioned problem facing commercial interests on the Alabama River and, within their discretionary authority, has instituted studies aimed at corrective alternatives. Possible short and intermediate term solutions being evaluated include: increased regulation of water discharges at the Claiborne Lock and Dam which should partially mitigate the seasonal low water problem; modified operational procedures for the Jones Bluff and Millers Ferry projects (up-river) to capture and harness all available water flows above Claiborne; and, additional dikes and "training" structures on the lower River to further confine water-flows, thereby increasing depths in critical reaches of the waterway.

Should these alternatives prove to be ineffective in solving this long standing problem on the Alabama River, the Corps has also indicated that it may be necessary to seek funding, in FY 1983 or FY 1984, so as to identify additional projects or authority needed from the Congress to increase the River's low-flows.

We respectfully request your concurrence and recommendation of funding being sought by the Coosa-Alabama River Improvement Association for the upcoming fiscal year.

STATEMENT OF B. H. MOONEY, JR., PUBLISHER, ROME (GA.) NEWS-TRIBUNE

Dear Sir:

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River System. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your Sub-Committee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the government and the people.

We specifically ask that you continue funding the project, within Corps. of Engineers capabilities, on the advanced engineering and design of the Coosa-Alabama River development, survey of the multi-purpose dam at Dalton, Ga. and deepening of Mobile Harbor. Also maintenance and operation monies for Alabama River, Allatoona, Carter's Lake, Jones Bluff and Millers Ferry dams and locks.

We earnestly solicit your continued support and urge that favorable consideration to be given to the total Fiscal Year 1982 request.

STATEMENTS OF JOEL SULZBACHER, CHAIRMAN OF THE BOARD, ROME MANUFACTURING CO.

Dear Senator Hatfield:

Please support the appropriations requested by the Coosa-Alabama River Improvement Association for work on the Coosa-Alabama River System during the coming fiscal year.

All of the projects in the Association statement to your sub-committee are important to our region, but we are particularly concerned with the Coosa River Navigation Project which will be of great benefit to Rome and Northwest Georgia. Barge shipping and it's economies will help our existing industries to grow and prosper as well as attracting new businesses and plants to our area.

Dear Senator Hatfield:

Please give your subcommittee's support to the funding of the projects on the Coosa-Alabama River System as outlined in the statement submitted by the Coosa-Alabama River Improvement Association.

I know, of course, that the river system must be developed as one entity to be completely effective, but we are especially interested in the Coosa River Navigation Project and the multi-purpose dam at Dalton Lake, Ga. These two public works are close to home and would be of great benefit to our area.

Letter From Shelton Prince, President and Publisher, Selma (Ala.) Times-Journal

March 23, 1981

Hon. Mark Hatfield, Chairman
Subcommittee on Appropriations for
Energy and Water Development
United States Senate
Washington, D.C. 20510

Dear Senator Hatfield:

The purpose of this letter is to express to you my strongest support for the continued development of the Alabama and Coosa rivers.

A navigable waterway from Mobile, Ala., to Rome, Ga., would be, in my opinion, one of the greatest things to happen for the benefit of the people of this state and region. The development of these rivers, however, is going to take a great many dollars and the continued support of Congress for this project is essential.

Others will be testifying before you today on many of the specific needs so I won't attempt to go into that in this letter, but I want you to know that I personally support this project and I assure you that is is supported by the vast majority of the people in this region of the country.

Sincerely,

Shelton Prince

Shelton Prince

Statement of Thomas A. Hayes, Chairman Chilton County (Ala.) Commission

Dear Chairman Hatfield:

Our County is a member of the Coosa-Alabama River Improvement Association and is situated in the area served by the Coosa-Alabama river system. Our County very strongly supports the requested budget funding for the continued development of our system.

We feel that the Coosa river navigation project money is needed to stay on schedule for the start of construction in 1983. The Coosa river flows through Chilton County and we strongly support this project as an investment in the future prosperity of Alabama, our region and our nation. During an energy crisis such as the one which we are currently experiencing, hydropower and barge transportation are both vitally important. Barge transportation brings an increase in productivity which is a requirement to fight inflation. It requires less fuel and less labor than other transportation modes and would be readily available to our area.

In addition, we support the requested Alabama river money for essential maintenance dredging. There were problems getting the dredging done soon enough last year and many delays and partially loaded barges were the result. Also, we support survey money to determine the feasibility of a new multipurpose dam on the Conasauga River near Dalton, Georgia (Dalton Lake).

STATEMENT OF MACK O. MCWHORTER, CHAIRMAN, MONTGOMERY COUNTY (ALA.) COMMISSION

Dear Mr. Chairman:

The Montgomery County Commission continues to closely follow the development of the Coosa-Alabama River project which was originally authorized by the Congress in 1945. We believe that the benefits which accrue to the citizens of this region and to the nation fully justify the complete construction and operation of this economical waterway.

We need to continue the development of this project in order to maximize the benefits of the investment already made and to proceed toward achieving the full potential of the waterway system.

We fully support the testimony provided by the Coosa-Alabama River Improvement Association. For many years this group has represented us and they accurately reflect our feelings of support for this waterway project.

Of particular interest to us is the appropriations to support essential maintenance dredging in the Alabama River. These operation and maintenance funds should be adequate and timely so that we can avoid past problems we have had getting the dredging done soon enough during the year.

Also, we fully support the survey money being proposed to determine the feasibility of a new multi-purpose dam on the Conasauga River near Dalton, Georgia. Hopefully this project can be revised to include hydro-electric power and storage water to maintain navigational depths on the lower Alabama River.

We urge your favorable consideration of the recommended appropriations. Adequate funding as requested is necessary to ensure that progress is made for further development of the System and to properly operate and maintain the existing portion. Similar information has been sent to the Hon. Tom Bevill, Chairman, House Subcommittee on Appropriations for Energy & Water Development, regarding this matter.

STATEMENT OF LLOYD L. SUMMER, JR., PRESIDENT, NATIONAL CITY BANK OF ROME, GA.

Dear Senator Hatfield:

I should like to request again that your committee recognize the vital need in this growing area of our country for completion of an Alabama-Coosa River Project, authorized in 1945, and in which we, as citizens, have already made a substantial investment.

The area of Alabama and Georgia served by the Coosa River thrives in industry and agriculture, which would be greatly stimulated by the development of the Coosa. I urge you and your committee's approval of this most important project which is well within the Corps of Engineers appropriations for fiscal year 1982. I would also like to request your support for the following projects:

1. Surveys - Deepening Mobile Harbor and the development of multi-purpose dam at Dalton Lake, Georgia.
2. Advance engineering and design - Coosa River Navigation Project. The money for this project is needed to stay on schedule for the start of construction in 1983. This project is a substantial investment in the future prosperity of Alabama, the Region and the Nation.
3. Operation and Maintenance - Alabama River, Allatoona Lake and Carters Lake, hydro-power plants in the Jones Bluff and Millers Ferry locks, dams and power plants.

Thank you for your consideration of these projects.

STATEMENT OF HUGH H. WILLIAMSON, MAYOR, PELL CITY, ALA.

Dear Senator Hatfield:

We urge your favorable consideration of the testimony of the Coosa-Alabama River Improvement Association which the City of Pell City strongly supports.

Pell City is particularly concerned over the continued development of the Coosa River for navigation. This years budget request is for the Advanced Engineering and Design of the Coosa River navigation project. Through the years we have supported the development of the Alabama River since we realized that the project must of necessity start in the lower part of the system and gradually work up the river system to be benefical to our area. Money for the project is necessary to stay on schedule for the start of construction in 1983. This project is an investment in the future prosperity of Pell City, St. Clair County, the State of Alabama, the Southeast Region and the Nation.

Development of the river for hydropower and for barge transportation are both vitally important during our energy crisis. Barge transportation brings an increase in productivity; which is a requirement to fight inflation as it requires less fuel and less labor than other transportation modes.

We know that you are aware of the value this project to the future growth and development of our city and this area and request your assistance in the continuation on this worthwhile project.

STATEMENT OF CARL A. TORBERT, JR., PRESIDENT, RADCLIFF MATERIALS, INC.

Dear Senator Hatfield:

We respectfully request your consideration and approval of appropriations requested for the following fiscal year 1982. Operations and maintenance programs on the Coosa-Alabama River System:

Navigation channel maintenance - Alabama River
Operation and maintenance - Claiborne Lock and Dam
Operation and maintenance - Jones Bluff Lock and Dam
Operation and maintenance - Miller's Ferry Lock and Dam
Operation, maintenance and deepening - Mobile Harbor

Our company supports the testimony of the Coosa-Alabama Improvement Association and we join in the efforts of its membership to maintain and extend the waterway to make the benefits of low cost, energy efficient water transportation available to a broader economic base.

In the past year, Radcliff Materials, Inc., has invested nearly $12 million in new marine equipment for use on the Alabama River. This equipment consisting of 3 boats and 20 barges will be dedicated to transporting limestone raw material from a quarry site on the Alabama River near Monroeville, Alabama, to Ideal Basic Industries new cement plant at Theodore, Alabama. In addition, our company will invest another $6 million on new equipment this year to support our extensive sand and gravel operations on the Alabama River from Montgomery to Mobile, Alabama.

During the past year, low water conditions on the Alabama River, in the late summer, made navigation extremely hazardous and severely hampered our company's gravel operations. As a result, we were forced to transfer our operations to an alternate site on the Tombigbee River. Should similar conditions occur again this year, it will not only severely affect our ability to deliver essential raw materials to Ideal's new cement plant, but also adversely affect other users of the river system. To avoid such a problem, we strongly urge your approval of the operation and maintenance budget to ensure that the Coosa-Alabama System will be available to offer its designed capabilities.

Your committee has always been most generous in its past considerations for projects in our area and we sincerely appreciate the committee's support of the great waterway systems of the State of Alabama.

Resolution of St. Clair County (Ala.) Commission

WHEREAS, the St. Clair County Commission met in regular session the 24th day of February, 1981, at 9:00 A.M. in Pell City, Alabama, and having under discussion appropriations to be requested for the fiscal year 1982 for the Alabama-Coosa River System; and

WHEREAS, the Coosa River Navigation Project money is needed to stay on schedule for start of construction in 1983, which is an investment in the future prosperity of Alabama, the Region and the Nation; and

WHEREAS, hydropower and barge transportation are both vitally important during an energy crises, as barge transportation brings an increase in productivity - a requirement to fight inflation, and also requires less fuel and less labor than other transportation modes;

NOW THEREFORE BE IT RESOLVED by the St. Clair County Commission that the Commission supports Coosa-Alabama River Improvement Association, Inc. testimony to be given before the Congress of the Unites States, through its Sub-Committees on Appropriations for Public Works, and is hereby requesting appropriate funds for the following projects:

Surveys - Deepening Mobile Harbor and multi-purpose dam at Dalton Lake, GA
Advanced Engineering & Design - Coosa River Navigation Project
Construction - Jones Bluff Reservoir Recreation Areas
Operation & Maintenance - Alabama River, Allatoona Lake and Carters Lake hydro-power plants and the Jones Bluff and Millers Ferry locks, dams and power plants.

Adopted this 24 day of February, 1981.

ST. CLAIR COUNTY COMMISSION

James H McCleadon
Bill Franklin
M B Ferguson
Paul Manning
James E Ingram

STATEMENT OF CARL MORGAN, JR., SELMA, ALA.

Dear Mr. Hatfield:

If you will pardon the personal references, I should like to preface my requests to you by stating that I have been a farm equipment dealer in Selma, Alabama, Dallas County for over 30 years. I served as the initial chairman and later as a board member of the Craig Airport and Industrial Authority, fifteen years as president of the Selma City Council, and most recently, a year and a half as Mayor of the City of Selma. During most of this time, I served as an ex officio member of the Coosa-Alabama River Improvement Association, and as a board member for the past two years. The work of the Association has been an outstanding example of community leaders and their government counterparts working together to accomplish tremendous results and economic benefits for the entire Southeastern Area.

The Agricultural Revolution that accompanied the change from cotton to cattle, and then to soybeans in our area has demonstrated most vividly the need for timely, cheap water transportation to the port of Mobile. Rail transportation has often been unavailable when most vitally needed and very expensive.

The Airport Authority together with the City of Selma and Dallas County initiated a survey to determine the need for a local port. This study indicated that a port at Selma would greatly benefit not only the agricultural economy but would greatly enhance existing local industry and the development of the former Air Base to an Industrial Park. As a result, legislation has been proposed to allow these local groups to pursue this project, which is very dependant on the continued development and support of the navigational requirements, including navigation depths of the river system.

We are also very supportive of the continued development of the Jones Bluff Reservoir Recreation Area which will greatly benefit the people of Dallas, Autauga, Lowndes, and Montgomery Counties.

STATEMENT OF ANNE RIGAS, CHAIRMAN, FLOYD COUNTY (GA.) BOARD OF COMMISSIONERS

Dear Senator Hatfield:

The Board of Commissioners of Floyd County, Georgia wishes to express its wholehearted support for the objectives of the Coosa-Alabama River Improvement Association.

The Coosa River Navigation Project is of particular concern and we urge your favorable consideration of the U. S. Army Corps of Engineers fiscal '82 appropriation of three million dollars earmarked for this project.

The total O & M Appropriation for six important elements of the Coosa-Alabama River System is $24.9 million. Four of these elements include hydroelectric generating facilities.

The dollars appropriated to the Coosa-Alabama system represents a sound investment in this region and will pay liberal dividends in the future.

Your sub-committee's support of the '82 appropriations for the Coosa-Alabama system will be greatly appreciated.

STATEMENT OF LARRY H. BARTON, MAYOR, TALLADEGA, ALA.

Dear Mr. Hatfield:

Let me take this opportunity to let you know that our views concerning the Coosa River Navigation Project have not changed, and we feel this project is most needed and will be of great importance to all areas that will be affected. In this time of inflation, I feel a more urgent need than ever before for funding and completion of this project. I urge you to support this project.

STATEMENT OF TOM CALDWELL, CHAIRMAN, ROME CITY (GA.) COMMISSION

Dear Chairman Hatfield:

On behalf of the citizens of Rome, Georgia and its citizens, we would like to file the following statement of support.

We believe that water based transportation is an essential and integral part of the national transportation system. It will have an increasing significance in future years because it requires less fuel and less labor per ton-mile when compared to other transportation modes. Additionally, major benefits such as hydroelectric power, stream level stabilization and water supply are highly important to the future of our community.

It is our view that these projects are not an expense to this nation. They are an investment in our economic development and future.

Therefore we would like to state our support for the following activities in the Coosa-Alabama River area.

SURVEYS: The multipurpose dam at Dalton Lake, Georgia and the deepening of Mobile Harbour need to proceed.

ADVANCED ENGINEERING AND DESIGN: The Coosa River Navigation Project cannot move forward without authorization for this task.

CONSTRUCTION: Jones' Bluff Reservoir Recreation Areas are ready to proceed.

OPERATION AND MAINTENANCE: Allatoona Lake, Carters Lake Hydropower Plants, Jones' Bluff and Miller's Ferry locks and dams and power plants all need continuing operation and maintenance assistance.

DALTON LAKE: The City of Rome supports survey money for the proposed multipurpose dam on the Conasauga River near Dalton. Stream stabilization is one of our primary concerns as well as hydroelectric power generation for this proposed facility.

We are particularly concerned that the Coosa River Navigation Project stay on schedule for the proposed start of construction in 1983

Additionally, maintenance dredging for the Alabama River needs further attention. Because of delays in 1980, operations of various barge traffic was delayed.

On behalf of the citizens of Rome we wish to thank you in advance for your consideration of the above matters.

STATEMENT OF REUBEN C. FINNEY, DIRECTOR, ALABAMA DEVELOPMENT OFFICE

Dear Senator Hatfield:

As director of the state agency charged by law with the development of Alabama's "human, economic and physical resources," I wish to reassert our unswerving support of the Coosa-Alabama River Improvement Association in its efforts to continue development of this vital southeastern waterway.

In view of the ever-worsening energy picture and our increasing dependence on imports of foreign petroleum products, I feel that immediate action is needed to make the Alabama and Coosa Rivers navigable from Rome, Georgia to the Gulf of Mexico. The significant energy savings to be realized by barge transportation in this region can only serve to enhance both industry and agriculture.

May I respectfully suggest that this waterway, when developed, will, through other waterways, connect this region with midwestern America as well as with South America and the world. This can only strengthen our nation.

In my opinion, waterways are among the most beneficial of all federal projects. This is because when the projects are completed and the public monies are all spent, the benefits to the people continue. How long have the Suez, Panama and Erie canals served mankind? Who can say with accuracy when the St. Lawrence Seaway will no longer serve the people of Canada and the United States? The development of the Alabama-Coosa system will surely benefit this country longer than any of us are capable of predicting.

During the period of national economic distress when the expenditure of every federal dollar must be carefully considered, I urge your committee to weigh the value of this project on the scales of long range benefits to the nation.

STATEMENT OF ROBERT V. HITT, CHAIRMAN, ETOWAH COUNTY (ALA.) COMMISSION

Dear Senator Hatfield:

As Chairman of the Etowah County Commission, I would like to express my wholehearted support on the upcoming appropriations request for the Coosa Alabama River Project.

I strongly urge and support the appropriation of $3 Million to continue the pre-construction planning for the project; $700,000 for studies to investigate deepening the Mobile Harbor Channel to 55 feet and $700,000 to study the feasibility of a new multipurpose dam on the headwaters of the Coosa River near Dalton, Ga.

In addition, the Commission urges approval of a total $24,961,000 in Operations and Maintenance funds for six projects: Alabama River ($4,673,000), Jones Bluff Lock and Dam ($3,615,000), Millers Ferry Lock and Dam ($5,569,000), Mobile Harbor ($5,055,000), Allatoona Lake, Ga. ($4,050,000) and Carters Lake, Ga. ($2,010,000).

It is my opinion that hundreds of industries located along these waterways could benefit tremendously should this river become navigable.

I would like to commend the efforts of Congress to continue this development and further look forward to your approval of the requested appropriations.

STATEMENT OF H. H. KNOX, SUPERVISOR FIBER/TRANSPORTATION, INTERNATIONAL PAPER CO.

Dear Senator Hatfield:

International Paper Company as a user of the Coosa-Alabama Waterway, is vitally concerned and dependant on subject waterway and joins wholeheartedly in the efforts of the Coosa-Alabama River Improvement Association, Inc., in its efforts to maintain and extend this waterway. The increased usage of the Coosa-Alabama Waterway coming on stream this year and firm plans for increased usage in the near term, clearly point to the confidence of industry as a whole in the importance of water transportation as the answer to cheaper, more energy efficient transportation, especially in the movement of bulk materials for conversion and manufacting.

Over the past several years, including 1980, we have averaged 250,000 to 300,000 tons of pulpwood and wood chips from points on the Alabama River. This not only represents a significant portion of our need to supply our mills but provides a market for pulpwood and chips purchased from independent wood suppliers, land owners and sawmills in the area.

Our company has operated its own tugs and a fleet of barges moving pulpwood from points on the lower Alabama River, including Claiborne and Dixie Landing, since the early 1930's. We now operate up the Alabama to a point above Millers Ferry Lock at Canton Bend, Alabama.

While our operations on the Alabama River are in the main satisfactory, we do have problems in seasons of extreme low water. We have shallow draft tugs and load our barges to six feet and under during low water. This, of course, affects our cost adversely, but perhaps more important are the delays and wear on the bottoms of the tugs and barges, when operation under these condition. The nature of our operation are such that we must move our barges up and down this waterway every week throughout the year, as we are dependent on a constant supply of fiber for our mills. The sawmills and other suppliers are in turn dependent on a constant flow and market for their pulpwood and chips. Continued annual attention to shoaling and maintenance dredging is extremely important to operating conditions on this waterway as the Coosa-Alabama is comparatively narrow requiring adequate channel depths across the entire channel in many places.

The continued improvment and extension of the Coosa-Alabama Waterway in addition to its importance to the growth and development of the adjacent counties and states directly involved transends into national importance in terms of the energy savings and our countries ability to compete in the export of manufactured products.

Resolution of Calhoun County (Ala.) Chamber of Commerce

WHEREAS: The Calhoun County Chamber of Commerce supports the work of the Coosa-Alabama River Improvement Association, and

WHEREAS: The continued improvement of the Coosa River is important to the industrial development of Coosa River Valley, and

WHEREAS: The Coosa River Navigation Project money is needed to stay on schedule for the start of projected construction in 1983, and

WHEREAS: This project is an investment in the future prosperity of Alabama, the region and the nation, and

WHEREAS: Money necessary for maintenance dredging is needed to prevent delays regarding the existing river traffic, and

WHEREAS: The energy needs of the nation will dictate the expanded use of barge transportation because of its energy savings and increased productivity aspect.

THEREFORE, LET IT BE RESOLVED: That the Calhoun County Chamber of Commerce supports the work of the Coosa-Alabama River Improvement Association and efforts to secure needed monies for the continued growth and maintenance of the Coosa-Alabama waterways.

Gerald Powell
Gerald Powell, President

Hulsey A Bray Jr.
Hulsey A. Bray, Jr.,
Executive Vice President

ADOPTED THIS DATE:
March 23, 1981

Statement of Anne H. Farish, President, Monroeville (Ala.) Chamber of Commerce

Dear Senator Hatfield,

The Monroeville Chamber of Commerce of the City of Monroeville, Alabama requests that the budget amounts, as requested to continue the development of the Coosa-Alabama River project, be approved.

The City of Monroeville and Monroe County has benefited greatly from the two industries located on the river, and we feel that their further development will be to the great advantage of this county and the state. We, in Monroe County, feel that we have a very real stake in the future of Alabama, and we also feel that we have a lot to offer as far as development is concerned.

Our Chamber of Commerce is very active, and we stand ready to support this project in every way. Please call on us for information and help.

Statement of R. A. Guthans, President, Tenn-Tom Towing, Inc.

Dear Sir:

At the request of Col. C. R. Carlson, Executive Vice President, Coosa-Alabama River Improvement Association, Inc., and as a member of this organization, we wholeheartedly support the Association's efforts to maintain and extend the Coosa-Alabama Waterway. We are presently using the waterway and have been transporting various products on the river for many years.

During the past twenty five (25) years, I have been associated with companies that have used the Waterway to transport sand, gravel, shell and petroleum products. At the present time we utilize the Waterway to transport petroleum products from the Gulf Coast area to one of the largest paper and pulp products plant in this area. During 1980 we moved approximately 100,000 tons of product to this industry.

Without the constant Operations and Maintenance, performed by the U. S. Corps of Engineers, we would not be able to supply our customer with the necessary fuel oils to keep their industry operating on a year-round basis. Only through proper maintenance and control of the Waterway will it be possible for the barge traffic industry to continue to be the most economical and energy efficient mode of transportation available today. It has been proven that the problems we face during both the low water season and high water season can be controlled, but the problems must be handled on a constant annual schedule.

Continued funding of this project can be put in proper perspective by comparing the Benefit/Cost ratio of 1.9 to 1 today, with the feasibility study of 1958, which reflected the anticipated B/C ratio of only 1.08 to 1. With the vital link of the Tenn-Tom Waterway System opening in 1985, the future for the Coosa-Alabama River and the development of the area it serves is unlimited.

We appreciate the opportunity of expressing our views on the Coosa-Alabama Waterway project and want to thank you for your cooperation in the past and continued interest for the future of the Waterway.

Statement of Craig L. Goodwin, President, Kinpak, Inc.

Dear Senator Hatfield:

Water transportation of finished goods and raw materials is achieving a role of greater importance as energy costs escalate upward. In fact, for some businesses water transportation is no longer just an attractive alternative to other transportation modes, but an absolute necessity if those businesses are to maintain a competitive position. Kinpak's venture is one that probably would not be viable without the excellent economies of water transportation. We at Kinpak recognize the vital importance of the Alabama River to the success of our enterprise and to the economic growth of the southeast region served by the river. Accordingly, we fully endorse the efforts and activities of the Coosa-Alabama River Improvement Association, Inc.

Kinpak began operating in Montgomery, Alabama in May of 1980 as a contract packager of antifreeze. During our start-up year of 1980, Kinpak received three barge movements, totalling about 900,000 gallons of ethylene glycol, the major ingredient of antifreeze. The glycol is shipped from petrochemical plants along the Louisiana-Texas gulf coast. In 1981, we are forecasting our ethylene glycol receipt to increase to 3,000,000 gallons or an equivalent of ten barge movements. The glycol is transferred from the barge into Kinpak's 1,200,000 gallon capacity bulk storage terminal which is located at the Alabama State Dock in Montgomery.

Our experience using the Alabama River has been favorable for the most part. We did encounter a significant delay and increased costs for the movement of one of our barges during August of 1980. Typically the transit time for a barge is about four days. The heavy 1980 spring rains caused shoaling which was aggravated by the summer drought's low water. The shoaling interrupted traffic at the river's low point, just downstream from Claiborne Lock and Dam, and delayed the barge for four days thus doubling the normal transit time. To realize the most efficient use of the river, it is important to all shippers that the working draft of the river be maintained at 9 feet. Kinpak is also hopeful that the river traffic expands in comming years, so our barge movements can be combined with the movements of other river users. This would permit the sharing of tow costs and a reduction in the unit cost for river transportation.

Individual consumers and business entities alike are engaged in a struggle against inflation. Because water transportation offers an opportunity to control rising shipping costs, everyone's interest is served by the Coosa-Alabama River Improvement Association, Inc.

STATEMENT OF G. T. NELSON, VICE PRESIDENT, ALABAMA POWER CO.

I am G. T. Nelson, Vice President of Alabama Power Company and Manager of Industrial Development with more than thirty years experience in industrial development work.

We continue to support the program of the Coosa-Alabama River Improvement Association toward making the Coosa River navigable from Montgomery, Alabama to Rome, Georgia through the construction of the necessary locks. In addition, to maintain a nine-foot draft on the Alabama River it is essential that necessary maintenance dredging be continued on a planned basis.

From the viewpoint of industrial development, a navigable Coosa River would provide sorely needed economic opportunities to the region since many companies would then be willing to consider the waterway as a location for an industrial facility. Fortunately there are many large tracts of land that qualify as good usable industrial sites on either side of the river that would have both barge and highway access.

Interstate 65 generally parallels the west bank of the Coosa from Wetumpka, Alabama to Calera, Alabama and Interstate 59 parallels the river from Springville, Alabama to just north of Gadsden, Alabama. Also, Interstate 20 crosses the Coosa at Riverside, Alabama. In addition, there are numerous major U.S. and State highways that provide access to the river. Rail lines are nearest the river on the west side and spurs can be extended for heavy industrial customers. Between Wetumpka and Gadsden, seven separate rail crossings provide additional access.

Providing navigation on the Coosa River should have an immediate positive effect on existing industries along the waterway. Some of the larger ones are Kimberly Clark at Coosa Pines and Goodyear and Republic Steel at Gadsden.

Consequently, we urge that funding for the Coosa River Navigation Project be continued so that construction can start in 1983, allowing the Coosa River Waterway to reach its potential.

STATEMENT OF BILL BATTLE, PRESIDENT, DISCO ALUMINUM PRODUCTS CO., INC.

Dear Congressman Hatfield:

A delegation from the Coosa Alabama River Improvement Association is scheduled to appear before the House Subcommittee on Appropriations on Monday, March 23rd. They have carefully studied the amount of money being requested and have gone over these figures with the Corp of Engineers in Mobile. The corp also approves that this amount of money is needed. We certainly hope that you and your committee will be able to approve these figures for us.

These monies will be needed for the Advance Engineering and Design of the Coosa Navigation Project and also for the surveys of deepening the Mobile Harbor and the multi-purpose dam at Dalton Lake, Georgia. The Coosa River Navigation Project money is needed to stay on schedule for the start of construction in 1983.

As you know, this project is an investment in the future prosperity of Alabama, the state and the entire nation. Hydro-power and barge transportation are vitally important during an energy crisis. Barge transportation brings an increase in productivity which is a requirement to fight inflation. It requires less fuel and less labor than other transportation modes.

The economic benefits of the Coosa Alabama Project have been clearly substantiated and the sooner construction starts, the sooner these benefits will be realized.

It is also good to point out that the waterways are the most energy efficient mode of transportation and the benefits are not only returned to the state but to the nation as a whole.

RESOLUTION OF GREATER PELL CITY (ALA.) CHAMBER OF COMMERCE

At the regular meeting of the Board of Directors of the Greater Pell City Chamber of Commerce, on February 12, 1981 the following Resolution was unanimously adopted and approved:

RESOLUTION

WHEREAS, The Greater Pell City Chamber of Commerce is vitally interested in the development of the Alabama-Coosa River System, and;

WHEREAS, The Greater Pell City Chamber of Commerce has been requested to submit written testimony for the Congressional Hearings before the Appropriations Subcommittees of the House of Representatives and the U.S. Senate to be held on March 23, 1981, and;

WHEREAS, The Greater Pell City Chamber of Commerce desires, to submit such written testimony, it is, therefore;

RESOLVED that directors, Keith Porter and Barnett Lawley, are, hereby authorized by the Board of Directors of The Greater Pell City Chamber of Commerce to submit written and verbal testimony expressing the Boards endorsement and support for the development of the Alabama-Coosa River System to the Appropriations Subcommittees of the House of Representatives and the U.S. Senate, and that the Greater Pell City Chamber of Commerce endorses this development in the belief it will contribute to the economic growth of Pell City, of Alabama, and of the United States.

John M. Thomas

Mr. John M. Thomas
President
The Greater Pell City Chamber of Commerce

LETTER FROM HENRY A. LESLIE, PRESIDENT, UNION BANK & TRUST CO., MONTGOMERY, ALA.

March 23, 1981

Honorable Mark Hatfield, Chairman
Subcommittee on Appropriations for
Energy & Water Development
United States Senate
Washington, D. C. 20510

Dear Mr. Hatfield:

I am taking this opportunity to write to you in support for the testimony of the Coosa-Alabama River Improvement Association, Inc. I would like to be personally present but since I cannot, I did want to submit this statement on behalf of the aims and objectives of the Association.

There are a number of fine projects involved in the association's request for appropriations but I would like to mention the operation and maintenance on the Alabama River. This money will support essential maintenance dredging. I do consider that the Alabama River is really vital particularly in an energy conscious time because barge transportation is less expensive than other more conventional means of transportation. The barge transportation requires less fuel and less labor, consequently bringing about an increase in productivity. Also, the production of electric power from the various locks and dams on our river systems is extremely vital in this time of high fuel cost and inflation. Such production of electric power from our water resources is important at a time when we would of course like to get away from the use of oil in power plants, and conserve the use of coal. Oil is very expensive, coal is costly, but "water fuel" is free.

I hope that your committee will see fit to grant the request for appropriations and survey money by the Coosa-Alabama River Improvement Association, Inc.

Sincerely yours,

Henry A. Leslie

Henry A. Leslie
President

Letter From Fred L. Huggins, Judge of Probate and Chairman, Clarke County (Ala.) Commission

February 20, 1981

Honorable Mark Hatfield, Chairman
Subcommittee on Appropriations for
Energy & Water Development
United States Senate
Washington, D. C. 20510

Dear Senator Hatfield:

The purpose of this letter is to re-affirm our long standing support of the waterway projects of the Coosa-Alabama River systems by the U. S. Corps of Engineers.

The Clarke County Commission and the citizens of Clarke County have long supported the navigation and related projects on the Alabama and Coosa Rivers. We again wish to re-new our plea to the U. S. Congress to provide funds for all Coosa-Alabama projects. We are particularly interested in seeing funds appropriated by Congress for advanced engineering and design on the Coosa River navigation project, and for operation and maintenance on the Alabama River.

We believe that waterway projects such as the Coosa-Alabama River projects are vital to the future of our country. These types of projects are not give-aways and handouts, but rather they are investments in America's future. We therefore, urge suitable and adequate appropriations for FY82 so these projects may continue on schedule.

Sincerely,

Fred L. Huggins
Fred L. Huggins
Judge of Probate and Chairman

STATEMENT OF JOHN T. SANDERS, PRESIDENT, CITIZENS FEDERAL SAVINGS & LOAN ASSOCIATION

Dear Congressman Hatfield:

Citizens Federal Savings and Loan Association of Rome, Georgia wishes to express its wholehearted support of the objectives of the Coosa-Alabama River Improvement Association as we recognize the future economic impact that the river navigation project could have on our local economy and monies appropriated to the Coosa-Alabama system represents a sound investment for this area.

Your committee's support will be greatly appreciated.

STATEMENT OF JACK E. RAVAN, DIRECTOR, ALABAMA DEPARTMENT OF ENERGY

Dear Senator Hatfield:

In Alabama we are keenly aware of the role the Alabama-Coosa waterway plays in easing the current energy problem. We are also aware of the potential of this river system once the navigation channel has been extended from Montgomery to Gadsden and Rome, GA. You and your committee members know the energy advantages of moving heavy cargo on a developed waterway and the valuable by-product of hydro-electric power.

As a staff agency of the State of Alabama we join with the Coosa-Alabama River Improvement Association in their recommendations for Fiscal Year 1982 funding. For many years the Association has advocated improvement of the river in all its aspects. While a major emphasis has been on industrial development and extension of the navigation channel, the Association also reminds us of the obligation to maintain the facilities already in place. The $24.9 million recommended for Operations and Maintenance (O&M) includes elements of the waterway system from Mobile Harbor to the hydro-electric and reservoir storage facilities on the headwaters of the Coosa River in Georgia. I am reminded that the sale of power from the four hydro-electric facilities, Millers Ferry and Jones Bluff in Alabama and Allatoona and Carters Lake in Georgia, brought a direct return of $9 million to the Federal Treasury in FY 1980.

Extension of the navigation channel to Gadsden and eventually to Rome, GA, has high priority in Alabama. We urge appropriation of the $3.0 million needed by the U. S. Army Corps of Engineers to continue pre-construction planning for the Coosa River Navigation Project. Energy efficient water transportation will support and assist in expanding the industrial payrolls and job opportunities in Northeast Alabama.

Our Nation is fortunate that over the years the members of Congress have seen the value of investment in our waterway system. This investment is bringing important returns today. Mr. Chairman, the contribution of your subcommittee is greatly appreciated.

Statement of Charles L. White, President, Georgia State Bank

Dear Chairman Hatfield:

We, at Georgia State Bank, having sixteen (16) employees, nine (9) directors and six hundred twenty six (626) stockholders, would like to go on record in support of the Coosa-Alabama River Improvement Association, Inc.

We recognize the future economic impact that the Coosa River Navigation Project could have on our local economy and we fully support the continual advancement and development of this project.

Resolution—Rome (Ga.) Area Chamber of Commerce

WHEREAS, those counties lying within the basin of the Alabama River are experiencing continuous economic growth due to the current development program now underway on the river; and,

WHEREAS, many of the counties in the area of the Coosa River have also begun experiencing economic growth because of the Alabama Power Company's development program, and this, too, will accelerate when the Alabama-Coosa waterway is fully navigable from Mobile to Rome, Georgia; and,

WHEREAS, dynamic economic growth, increased hydropower and barge transportation facilities, and a more productive way of life, are but a few of the numerous benefits that will accrue when this great river system is developed;

THEREFORE BE IT RESOLVED, that the Rome Area Chamber of Commerce approves testimony by Coosa-Alabama River Improvement Association for support of appropriations on the following projects:

Alabama-Coosa Rivers
Allatoona Lake
Jones Bluff Lock and Dam
Carters Lake
Millers Ferry Lock and Dam
Mobile Harbor
Multipurpose Dam, Dalton Lake, Ga.

We strongly urge appropriations representing the capability of the Corps of Engineers for Fiscal Year 1982.

Approved and adopted this 23rd day of March, 1981.

Joel Sulzbacher, Chairman
WATERWAYS COMMITTEE

STATEMENT OF MICHAEL B. McCAIN, EXECUTIVE DIRECTOR, ETOWAH EXPANSION ASSOCIATION, INC.

Dear Senator Hatfield:

The Etowah Expansion Association, as this metropolitan area's economic development agency, wholeheartedly supports the upcoming appropriations request for the Coosa-Alabama River project.

It has already been determined that anticipated project benefits exceed total costs by a significant amount. Moreover, literally hundreds of industries proximate to the Coosa River could benefit from its navigability. Equally as important, new industrial development resulting from this project could have the effect of improving its cost/benefit ratio to an even greater extent.

In our estimation, it is imperative that the Coosa-Alabama River System be continually improved on a businesslike basis to obtain maximum benefits from the investment already made, and from investments to accrue in the future.

STATEMENT OF L. REGINALD MINTER, MAYOR, MILLBROOK, ALA.

Dear Mr. Hatfield:

We fully support Association testimony in Congressional Hearings and assure you that development and improvement of the waterway of the Coosa-Alabama River Improvement Association has citizen support in our area as well.

We would like to emphasize the operation and maintenance (O&M) for the Alabama River, Allatoona Lake and Carters Lake hydro-power plants and the Jones Bluff and Millers Ferry locks, dams and power plants.

There is no question but that the Alabama River money supports essential maintenance dredging; we know that problems arose last year getting the dredging done soon enough which caused many delays and partially loaded barges.

STATEMENT OF EMORY FOLMAR, MAYOR, MONTGOMERY, ALA.

Dear Senator Hatfield:

On behalf of the City of Montgomery, I request your Sub-committee on Appropriations for Energy and Water Development consider favorably the Alabama-Coosa River System appropriation for Fiscal Year 1982. The Fiscal Year 1982 appropriation is necessary to insure programmed continuity for construction beginning in 1983.

While I support any and all efforts to reduce Federal spending, I would suggest to you and your committee that funding the Alabama-Coosa River System would be in order, consistent with other similar needs.

Your favorable action on these appropriations will be appreciated.

STATEMENT OF W. J. HEARIN, PRESIDENT, MOBILE (ALA.) AREA CHAMBER OF COMMERCE

Dear Senator Hatfield:

It is our request that you please recommend the Committee's approval for funding of the Coosa-Alabama Rivers development in the fiscal year of 1982 budget. The continued development of this important waterway is essential for Alabama's economic future, including the addition of new industries to provide jobs for our people. With the ever increasing energy crisis we also believe that it is vital to our national interest that hydropower and barge transportation be developed to the maximum extent. Barge transportation as we all know results in an increase in productivity in the transportation of bulk commodities and requires less fuel than other modes of transportation.

We particularly request your Committee's support for the funding of the Coosa River Navigation Project which funds are needed to maintain the schedule for commencement of construction in 1983. Since most of the waterway projects in Alabama flow to the port of Mobile, we also urge adequate funding for the authorization and initiation of deepening the Mobile Ship Channel from its present depth of 40' to 55' as recently recommended by the U. S. Army Corps of Engineers in their Feasibility Report on this project. The deepening of the Mobile Ship Channel is also a project of national interest and essential if our nation is to remain competitive in today's international market where larger vessels with deeper drafts are now commonplace.

STATEMENT OF WILLIAM B. PRIMM, PRESIDENT, HOME FEDERAL SAVINGS & LOAN ASSOCIATION, ROME, GA.

Dear Senator Hatfield, we, the officers and board of directors of Home Federal Savings and Loan Association of Rome, Ga., wish to go on record in support of the Coosa-Alabama River Improvement Association. We feel that the eventual development of the Coosa-Alabama Waterway system will prove of tremendous value to the future economic growth of Rome and Floyd Counties.

Thank you for your support.

LETTER FROM TOM WADE HAMPTON, PRESIDENT, CHEROKEE COUNTY (ALA.) COMMISSION

MARCH 3, 1981.

Hon. MARK O. HATFIELD,
Chairman, Subcommittee on Energy and Water Development, U.S. Senate, Washington, D.C.

DEAR SENATOR HATFIELD: The Cherokee County Commission would like to request the Alabama Coosa River navigation project be given your every consideration. We are a strong agricultural and coal mining region and would definitely benefit from this project.

Thanking you in advance for your cooperation, I am,

Sincerely yours,

TOM WADE HAMPTON.
President, Cherokee County Commission.

STATEMENT OF H. F. MEDLIN, TRAFFIC MANAGER, GOODYEAR TIRE & RUBBER CO., GADSDEN, GA., PLANT

Dear sir, the Goodyear Tire & Rubber Co. wholeheartedly supports the development of the Coosa River project. When this project is completed, it will be very beneficial to Goodyear and the surrounding areas. We feel this is an investment in the Southeast which will continue for the next 50 years and not an expenditure.

STATEMENT OF JASPER FIELDING, CHAIRMAN, COOSA COUNTY (ALA.) COMMISSION

Dear Senator Hatfield, the Coosa County Commission would like to take this opportunity to show it's support for the Coosa River navigation project.

Coosa County is a rural county with timber growing as its main industry. Coosa County roads are inadequate to handle the heavy traffic and transportation needs. The opening of the Coosa River for hauling and transportation will create many jobs in wood-related industries.

The Coosa-Alabama River Improvement Association, Inc., has done an outstanding job in supporting and seeking funds for this much-deserved project and the Coosa County Commission wholeheartedly endorses their efforts as they lead us in this matter. Your support in this matter will be greatly appreciated.

WARRIOR-TOMBIGBEE WATERWAY

STATEMENT OF SHELDON MORGAN, PRESIDENT AND CHAIRMAN, WARRIOR-TOMBIGBEE DEVELOPMENT ASSOCIATION

Senator STENNIS. I call now Mr. O. S. Nichols, if I may, executive vice president, Warrior-Tombigbee Development Association. You can have a seat up there close to the loudspeaker, please. We are fortunate to have with us the representatives of the Warrior-Tombigbee Development Association led by Mr. O. S. Nichols, Jr., who is executive vice president.

Mr. Nichols, I will call on you first.

Mr. NICHOLS. Thank you very much, Senator. We appreciate you being here. Mr. Sheldon Morgan on my left is president and chairman of the Warrior-Tombigbee Development Association. He will present the testimony.

Senator STENNIS. Glad to have you, too.

Mr. MORGAN. Nice to be with you today, as last year, to speak to you on behalf of the Warrior-Tombigbee. I think you know where that is because it is not too far across the State line from where you are, near Tuscaloosa, Birmingham, South Mobile. The Tennessee-Tombigbee is at Demopolis. We have about 18 million tons on that river running from up near Birmingham down to Mobile. I remember last year, you helped us so many years on our port, on our rivers, you made a statement last year that you were Alabama's third Senator. We appreciate that.

We have always looked on it that way, too. There are some representatives with me of members of the board of this association that have a vital interest, a stake in this vital waterway. I would like to introduce them and enter their names for the record.

Senator STENNIS. Good.

Mr. MORGAN. Mr. N. J. Barclay, Jr., vice president.

Senator STENNIS. Just stand up and remain standing.

Mr. MORGAN. Mr. Bob Coleman, Radcliff Materials of Mobile; Mr. Jerome Drummond, vice president Drummond Co. of Jasper, Ala.; Mr. James Ludwig, vice president of Southern Services in Birmingham; Mr. Tim Parker, Jr., vice president of Parker Towing Co., Tuscaloosa. Thank you, sir.

Senator STENNIS. Glad to have you here and your good manifestation of interest. As I say, you are taxpayers, too. You have a right to your opinions.

Mr. MORGAN. They are the users of this waterway and handling about 18 million tons of coal, iron ore, raw materials of all kind, fuel, grain products, soy beans, and what we want to speak to you today briefly is about the needs of the immediate future of this waterway.

We have a little better than $7 million in the—$7$^1/_2$ million in the budget request for fiscal year 1982 for operation and maintenance of this waterway. We have got some serious problems on one or two points in the waterway having to do with an outdated lock in Tuscaloosa. The Corps studied this problem and they have put into their budget request nearly a million dollars to continue these studies on the improvement of the efficiency of the waterway and the replacement of this Oliver Lock at Tuscaloosa. It is a bottleneck that is going to be serious in nature in the very near future. The increased tonnage of coal is estimated at about 7 million tons in the next 48 months coming out of the Warrior basin. Until the Tennessee-Tombigbee is completed, all the coal going out of the Port of Mobile will come out of this Warrior basin, just north of Tuscaloosa, and this lock at Tuscaloosa cannot handle the forecast of tonnage movement that is going to accrue here in the next 48 months. We are going to see a saturation of this lock and even today it is a very inefficient operation because when they modernized this system in the early 1950's, they created six new locks and dams, but they only built five of them. This is one lock which is yet to be built. They never did build it. It is out of step with all the rest of the system. It desperately needs to be replaced and we requested Mr. Bevill's committee this morning to give careful attention to the replacement of this old lock at Tuscaloosa, but we see the growing tonnage as a result of the exportation of coal and increased growing of soy beans and the industrialization along this waterway has brought about a dramatic increase of commerce on this system, just as is going to happen on the Tennessee-Tombigbee when it is complete.

We have seen today the results of the Corps' projections. They are very conservative. They projected this thing at 8 million tons and now it is moving 18 million tons, twice as much as before.

This system has a real need because it has brought on it now some demands of today's situation, in terms of economy, on an old system. It needs some attention if we are going to meet the needs of the growing area down there, particularly growing energy picture and the exportation of coal.

Coal engineers could actually use about another $3.3 million for added capability. We realize the budgetary constraints and we are not requesting this unless after review the committee sees the Corps actually should consider this and it is workable within the confines of the overall budget limitations.

We are saying really that last year we had some serious flooding, the year before, the creation of some very emergency situation. If that occurs again this year just by chance, then the Corps of Engineers, we feel, will not have enough funds to handle an emergency situation.

Mr. Chairman, we appreciate the opportunity to appear before you and your time and the committee's time. We will enter a written statement for the record along with 20 other individual statements representing organizations in our membership that will be filed for the record.

[The statements follow:]

STATEMENT OF SHELDON L. MORGAN, PRESIDENT, WARRIOR-TOMBIGBEE DEVELOPMENT ASSOCIATION

My name is Sheldon L. Morgan. I am President of Warrior-Tombigbee Development Association. The membership of this Association consists of a cross-section of agricultural, commercial and industrial activities in the region comprising the Warrior-Tombigbee basin in Alabama. It was formed in 1952 to bring about the re-development of the Warrior-Tombigbee Waterway System, consisting at that time of fifteen locks and dams. Construction of that system (originally 17 locks and dams) began in the late 1870's and culminated with the seventeenth lock and dam in 1915. The navigation system provided by these locks and dams gradually was permitted to fall into disrepair as a result of insufficient funds for maintenance and repair. By the middle of 1950, the annual tonnage on the system had levelled off to about 2.5 million tons per year due to the limited capacity of the obsolete locks.

Warrior-Tombigbee Development Association's objectives since its formation have been not only the replacement of the outmoded locks and dams and improvements in the Mobile Bay area, but also the appropriation of sufficient operational and maintenance funds to maintain the facilities in first-class condition. Congress generally has appropriated the necessary funds to make this possible. As a consequence, there are now only six locks to traverse the 400-plus miles from the head of navigation to the Port of Mobile, one of the nation's vital harbors. During the studies which resulted in this re-development, it was estimated that by 1980, the waterway would carry some 8 to 9 million tons. Records reflect these levels were reached about 1966, and it appears that approximately 18 million tons moved in 1980 -- a seven (7) fold increase over the beginning point in 1950, and a doubling of what had been expected from the improvements.

While in past years the waterway has operated in a generally efficient and reliable manner, we have now encountered a new set of circumstances. These new circumstances reflect not only the impressive growth up to now, but even more the immediate and increasing impact of the world-wide energy picture. Some estimates indicate that 10% of our nation's coal reserves are located in the Warrior Basin. According to a draft study by the U. S. Department of Agriculture, strippable reserves alone in the Warrior Basin are over 4 billion tons. We have a number of large and experienced mining operations in the area, as well as others capable of substantial growth. The development of these coal reserves, the skills and experience of our people, and the growing world-wide demand have created serious problems for the waterway. One of the older locks remains to be replaced -- William Bacon Oliver Lock at Tuscaloosa. This lock, opened to navigation in 1940, with smaller dimensions than the other five newer locks, is a bottleneck; and is also subject to frequent suspension of traffic to permit repairs. Because this structure is a bottleneck, it is no possible for the five newer locks, the dimensions of which are 110 feet x 600 feet against 95 feet x 460 feet for Oliver, to be used to their maximum capacity.

To cite a single example of what is happening, let me relate just the export situation with two of our largest coal producers. In 1980 they exported over 4.5 million tons of coal through the Port of Mobile. Sales contracts existed for more than 1/2 million additional tons, but which were not fulfilled because they were unable to get the coal to the Port. Both firms are increasing their operations by nearly double over the next 24 to 48 months. Exports of 7 million tons are expected in 1981, with 1982 approaching 8 million tons, and further increases in 1983 and beyond. We are advised that substantially all of this coal is already sold, and there is the expectation of even higher sales if the necessary production and transportation facilities can keep pace.

I wish to emphasize that there are many other important commodities moving on the Warrior-Tombigbee Waterway, as well as large amounts of domestic coal for the utilities and other users. For instance, as more and more grain products are produced in our region, their timely and competitive movement becomes more important to our balance of payments. Fuel oil, crude, chemicals and aggregates comprise the other major movements.

On a positive note, the Alabama State Docks is moving ahead to be able to handle the impact of these increases on the Port of Mobile. One hundred million dollars in bonds have been sold, and that money is now available to support the needed expansion program.

With respect to the need for replacing the William Bacon Oliver Lock, we realize, of course, that authorization for its replacement must come via another committee. However, we emphasize this need because among other items, the proposed FY 1982 Civil Works Budget for Alabama includes an item of $958,000 for surveys to fund the continuation of a study to determine the economic feasibility of the replacement of William Bacon Oliver Lock as well as the desirability of other improvements in the Waterway to accommodate the large volume of additional traffic expected to be generated by the completion of the Tennessee-Tombigbee System. Because of the immediacy of the problem at William Bacon Oliver Lock, that portion of the study is being expedited, and is expected to be finished early in 1982. Pending replacement of the lock, we must look at non-structural alternatives to keep the pressure off. That will work for only a short time. The $958,000 requested represents the amount needed for the Corps of Engineers to proceed at their capability in order to meet this 1982 study completion date. Early completion of this study could help forestall the development of emergency situations and consequent escalation of costs and loss of world markets. The study further embraces a review of potential additional sites for water supply for low flow augmentation, industrial and other uses and bringing up-to-date the economic profile of the area as reflected in an earlier study.

We are encouraged that the Congress may be considering port improvement legislation which has been identified with the term "Fast Track," with the purpose being to reduce the long and drawn out period required for navigation improvements. We support this concept and urge that its intent and application be broadened to include the inland waterways where bottlenecks exist to the movements of the basic commodities requiring such deep water ports.

Because of unprecedented flooding and shoaling which occurred in 1979 and 1980, we are less confident of the O and M situation than we have been in the past. The requested amount of $7,494,500 is substantially short of the Corps' capability of $10,826,500. While the requested figure could prove adequate under earlier circumstances, it may not be should we again experience the flooding and shoaling of the last two years; or should it turn out that this severe flooding has caused changes in the basic characteristics of the rivers. The Corps has scheduled a 32 day closure period for lock maintenance and repair on two locks beginning July 15. Full capability effort toward O and M may not be possible for the remainder of the year. Of the $3,332,000 capability not included in the budget request, some $2,882,000 relate to items having a direct bearing on the efficiency, reliability, and safety of the waterway. These are items such as additional dredging, snagging, engineering, and improvements in the lighting, gates and mitering at two locks. A detailed breakout of this unbudgeted capability is attached hereto.

Included in the budget which this Committee is now considering are the following items bearing directly on the needs of the Warrior-Tombigbee Waterway:

Black Warrior and Tombigbee Rivers	Operation and Maintenance	$7,494,500
Warrior and Tombigbee Rivers, Alabama	Surveys	958,000

Other needs allied to the Black Warrior-Tombigbee include:

Mobile Harbor	Deepening Survey	$ 700,000
Mobile Harbor, Alabama	Operation & Maintenance	3,044,000

We fully endorse and seek the approval of these items. I, as President of the Warrior-Tombigbee Development Association; Offa S. Nichols, Jr., our Executive Vice President, and our other officers; our Board of Directors and membership appreciate the consideration the Chairman of this Subcommittee and its predecessor and the members and staff have shown us in past years.

We value our relationship with the Committee. It is our policy to make no unreasonable requests and to avoid needlessly taking up the Committee's time. This we have practiced over the years.

We are submitting additional written statements of support representing a cross-section of business, industry and the public.

Thank you for your consideration.

Witness list and list of supporting statements attached hereto.

WITNESSES APPEARING BEFORE THE SUBCOMMITTEE ON ENERGY AND WATER DEVELOPMENT OF THE U. S. HOUSE AND U. S. SENATE IN SUPPORT OF THE CORPS OF ENGINEERS BUDGETED ITEMS RELATING TO WARRIOR-TOMBIGBEE AND MOBILE AREA IN ALABAMA - MARCH 23, 1981:

The Honorable Bill Dickinson - Member of Congress - Alabama
The Honorable Jack Edwards - Member of Congress - Alabama
The Honorable Ronnie Flippo - Member of Congress - Alabama
The Honorable Bill Nichols - Member of Congress - Alabama
The Honorable Richard Shelby - Member of Congress - Alabama
The Honorable Albert Lee Smith - Member of Congress - Alabama

The Honorable Howell Heflin - Member of Senate - Alabama
The Honorable Jeremiah Denton - Member of Senate - Alabama

Mr. Sheldon L. Morgan - Chairman-President, Warrior-Tombigbee Development Association
Mr. Offa S. Nichols, Jr. - Executive Vice President - Warrior-Tombigbee Development Association
Mr. N. J. Barchie, Jr. - Vice President - Warrior & Gulf Navigation Company - Chickasaw, Alabama
Mr. Bob Coleman - Radcliff Materials, Inc. - Mobile, Alabama
Mr. Jerome Drummond - Vice President-Transportation - The Drummond Company - Jasper, Alabama
Mr. Ed Hodder - Vice President-Marketing, Mining Division, Jim Walter Resources - Brookwood, Alabama
Mr. James Ludwig - Vice President-Fuel Supply - Southern Company Services, Inc. - Birmingham, Alabama
Mr. G. T. Nelson - Vice President-Industrial Development - Alabama Power Company - Birmingham, Alabama
Mr. Tim Parker, Jr. - Executive Vice President - Parker Towing Company - Tuscaloosa, Alabama

ADDED CAPABILITY

CORPS OF ENGINEERS FUNDING NEEDS FY '82

BLACK WARRIOR-TOMBIGBEE

Budget requests FY '82	$ 7,494,500
Added capability FY '82	3,332,000
Total Capability FY '82	10,826,500

* *

Explanation of Added Capability:

1.	Additional contract dredging (would be needed in the event of unusual weather conditions such as last year.)	1,146,000
2.	Additional surveys, studies, engineering design and other	450,000
3.	Snagging	136,000
4.	Rehabilitation of lock tenders' dwellings, and portable water supply	275,000
5.	Construction of boat house and modification of resource manager's office	175,000
6.	Modernize Warrior & Oliver locks (includes new gates, lighting, mitering, etc.)	1,150,000
		3,332,000

STATEMENT OF ROBERT M. HOPE, DIRECTOR, ALABAMA STATE DOCKS DEPARTMENT

Dear Chairman Hatfield:

The Alabama State Docks and the Port of Mobile are embarking on perhaps the most exciting period of development in the port's 52-year history. The State Docks Department facilities at Mobile have for the last five years been undergoing renovation and refurbishing as the result of a $45 million Bond Issue passed for this purpose. On February 10, Coal Export and Port Facilities Expansion Revenue Bonds were sold in the amount of $100 million for the purpose of expanding bulk facilities at the Alabama State Docks vital to the State of Alabama and to the southeastern and mid-western regions of the United States.

In addition to renovation and expansion programs either under way or commencing in the immediate future, the Port of Mobile has a channel deepening and harbor improvement program which has been recommended at the Corps of Engineers District level in Mobile, approved at South Atlantic Region in Atlanta, and has just recently been approved by the Board of Engineers for Rivers and Harbors in Washington, D. C. Final approval of the project rests with the Chief of Engineers in Washington.

The project calls for deepening the Mobile Ship Channel from the Bankhead and Wallace Tunnels south to the Gulf from a present authorized depth of 40 ft. to an authorized depth of 55 ft. In addition, harbor improvements such as an additional authorized turning basin and anchorages are included in the project.

The Department's expansion program at Mobile includes a third phase to the McDuffie Island export coal terminals and will involve the construction of two additional storage pads bringing ground storage capacity at this plant up to 2 million tons, a third stacker/reclaimer, a third barge unloader, a second rail car dump, a second rail loop track, a second ship dock with high speed ship loading equipment and an integrated material handling conveyor system which will tie Phase Three into Phases One and Two giving the plant an extremely high level of flexibility in regard to its loading and unloading exercises as well as making this facility the most technologically advanced export coal handling plant in the United States.

Also included for expansion is the Alabama State Docks bulk material handling facility at Three Mile Creek. This expansion will include construction of the concrete bottom dump pit of a size and length sufficient to unload two bottom dump rail cars at one time with required feeders and connecting conveyors to move such commodities as coal and coke from the bottom dump pit to existing main dock conveyors for delivery of the commodities either to an existing ship loader or by a new conveyor to a new paved storage area which will be constructed from bond proceeds.

The new conveyor from the main dock conveyor to the new storage area will be reversible so tonnage can be reclaimed from the storage area and transferred to the existing ship loader. Included in this construction will be necessary railroad track work as well as pollution control equipment to meet all applicable air and water discharge requirements.

Export grain tonnages arriving at Mobile are processed through the Alabama State Docks Department grain elevator complex consisting of a number of elevators, storage silos and bins. The Department is presently completing construction of the north head house which enables the cleaning, weighing and loading onto ships of grain transferred from the existing storage facilities, as well as the receipt of grain from truck and rail connections. The existing grain facilities contain a storage capacity of 3.2 million bushels and capacity in four shipping systems to load ships at approximately 40,000 bushels per hour.

The grain handling facilities will be improved from the proceeds of the bond fund by construction of facilities necessary for compliance with Emission Control Regulations of the U.S. Environmental Protection Agency and the development of facilities which will be capable of loading ships at a rate of 80,000 bushels per hour at a new berth which will be constructed at the river end of Pier D. The berth will be of sufficient size to handle the large bulk grain carriers and grain will be conveyed from the North headhouse through an enclosed gallery building constructed parallel to the loading berth. Two 80,000 bushel per hour belts will feed rail mounted loaders which will be powered for travel up and down the wharf and capable of swinging 180 degrees. The loaders will be equipped with a telescoping verticle loading chute and the loading boom will be able to reach 84 ft. down the face of the wharf.

The highly competitive posture of the Alabama State Docks and the Port of Mobile is a direct result of the port's enviable inland transportation infrastructure. Four major rail lines serve the Port of Mobile; however, it is the State's inland river system that often gives the port its competitive edge.

The expansion projects which I have outlined above are the direct result of bulk tonnages moving on Alabama's River systems and the Warrior-Tombigbee is, of course, the heavier utilized system in the State.

The Alabama State Docks has developed four inland docks on the Warrior-Tombigbee system, two of which are equipped with grain elevators. The inland facility at Demopolis has a 262,000 bushel elevator while the facility at Tuscaloosa-Northport has a 572,000 bushel elevator. Grain arriving at these facilities can be moved to the deep water terminal facilities at Mobile by economical barge transportation.

During the calendar year 1980, eighty-four percent of the inbound traffic moving into the McDuffie export coal terminals arrived by barge. The plant worked 2,493 barges of coal during 1980. This coal was loaded in the Warrior River basin and moved via the Warrior-Tombigbee/Mobile River to the export plant in Mobile. The economies of river transportation in connection with export coal shipments have given producers in the State of Alabama an entre into coal markets abroad. In addition to providing low-cost transport on waterway systems, the rivers have had the additional effect of stabilizing land movement by rail requiring our railroads to be cost competitive.

The continued operation and maintenance of the Warrior-Tombigbee Waterway is vital to the interest of the Alabama State Docks and the Port of Mobile. The restraint on the waterway at this time exists in the Oliver Lock and the continuance of an expedited study to replace this Lock is imperative.

The Alabama State Docks through this statement and in concern for the continued development of the Warrior-Tombigbee Waterway offers its support for the testimony of Sheldon Morgan, President of the Warrior-Tombigbee Development Association. Not only is this waterway vital to the interest of Alabama in that it provides an economic mode of transportation, it also has the national effect through the movement of export coal and grains of offering this country the assistance of bringing into balance our deficit in trade and payments.

The river system is energy efficient and plays a vital role in our local, national and international trade, and we at the Alabama State Docks Department pledge our unerring support to its continued development.

STATEMENT OF NORMAN S. IVEY, GENERAL MANAGER AND ASSISTANT VICE PRESIDENT, AMERICAN COMMERCIAL BARGE LINE CO.

I am writing on behalf of the American Commercial Barge Line Company which operates a fleet of towboats and barges on the Inland Rivers and canal system of the country to provide service to the various Industries located along these waterways. We wish to express our support for the initiative being undertaken by the Warrior-Tombigbee Development Association to improve navigation on the Warrior-Tombigbee Waterway.

Included in our transportation system is the movement of coal from Holt, Alabama, Port Osborne and Coal Systems Dock at Mile 372 on the Warrior River to Gulfport, Mississippi. These cargoes move down the Black Warrior, through the Port of Mobile and West to the Gulf Intracoastal Canal. In 1980, these movements accounted for approximately 850,000 tons of cargo. In addition to these volumes, we also were involved in the movement of a number of loads of scrap, alumina and chemicals through the Port of Mobile on a high volume basis for over five years and we anticipate increased volumes of movements in the future due to the significant development of coal resources in the area served by the Waterway. During this time we have developed what we feel is the most efficient method of operating along the subject Waterway. Our tows, when conditions permit, consist of six barges and a bow steering unit, rather than the four-barge tow traditionally operated along this Waterway. This configuration leads to improvements in fuel efficiency as well as savings in capital and manpower. Improved channel maintenance coupled with expanded capacity at Oliver Lock will lead to increased use of this type tow which in turn would lead to reductions in the cost of transportation, making the products of this region more competitive in U.S. and world markets.

Another project supported by the Warrior-Tombigbee Development Association that has significant potential is the deepening of the Port of Mobile. Some analysts have been quoted as saying that the delivered price of U.S. coal exported through Gulf ports to European markets could be reduced by over $6.00 per ton if the Gulf ports could accommodate the larger vessels now plying the world's oceans. More efficient river operations coupled with the improved channel depths that will accommodate large ocean-going vessels should greatly enhance the competitive position of U.S. coal in the world market place. As a nation chronically fighting balance of payment problems due to the high cost of importing fuel, a program leading to an improved export position should enjoy widespread support.

In closing, I would like to say that if our Company can be of any further assistance in providing input regarding this matter, please advise.

STATEMENT OF NEIL N. DIEHL, PRESIDENT, WARRIOR & GULF NAVIGATION CO.

Dear Senator:

My name is Neil N. Diehl. I am president of Warrior & Gulf Navigation Company, and A & G Transportation Company, with operational headquarters in Chickasaw, Alabama. Our two companies own and operate 18 towboats and 270 barges on the Warrior-Tombigbee Waterway in Alabama, and on the Gulf Intracoastal Waterway from St. Marks, Florida to Brownsville, Texas. In 1980, our barge lines moved approximately 7.4 million tons of cargo on the Warrior-Tombigbee System, consisting of coal, shale, iron and steel, ores, and other material of crucial importance to the economic life of the area, and employed over 200 people. In addition to the river transportation equipment, our companies own and operate a major bulk material handling facility located near Birmingham, Alabama. This facility is capable of handling up to 6 million tons of bulk materials each year, and is being expanded at the present time to accommodate increased volumes.

Our companies fully support the continued development of the Warrior-Tombigbee River System. We have been operating on this river system since 1940, and have continued to expand each year as the reliability and efficiency of the Warrior-Tombigbee has improved. Many limitations on the system have been overcome in the last 41 years, but many still continue to plague towing companies and water dependent industries alike.

To illustrate, in 1980 alone, the Warrior-Tombigbee River was closed to navigation at some point along its length, a total of 96 days or 26% or the year. These shutdowns were caused primarily by excessive flooding, lock closures due to high water and repairs, and heavy silting on the river bottom. In addition, tows transiting the Oliver Lock & Dam were delayed on numerous occasions due to congestion. River closures and delays, regardless of the cause, have a compounding effect on waterway transportation, as river tows and ocean vessels incur added expense.

We recognize that the inherent nature of the topography will cause river conditions which cannot always be overcome. However, we believe that positive steps must be taken to assure predictable and reliable operation of these rivers. These steps should include the expedient replacement of the obsolete and undersized Oliver Lock and Dam, as well as timely and responsive maintenance of the river system including preventative dredging and maintenance of the facilities.

Certainly, however, the most progressive step is the recognition for the deepening of the Mobile Ship Channel which must be viewed as completely necessary to successfully compete in the world's awakening coal market. Of the 4 million tons of coal shipped by our Barge Lines in 1980, 83% was export coal destined for world markets via ocean vessels through the Port of Mobile. In addition, 2.6 million tons of iron ore, was delivered through the Port of Mobile for barge transportation to the steel mills in Birmingham, Alabama. These tonnage volumes are but a small portion of the 12 to 15 million tons of coal and ore traffic anticipated in the near term for the Mobile Ship Channel.

It is our firm conviction that positive steps, such as those just mentioned, will assure the continued economic health of the region, as well as that or our companies.

We appreciate very much the opportunity to present our views.

STATEMENT OF N. J. BARCHIE, JR., VICE PRESIDENT AND GENERAL MANAGER, WARRIOR & GULF NAVIGATION CO.

Dear Senator Hatfield:

I am Vice President and General Manager of Warrior & Gulf Navigation Company and A & G Transportation Company. We currently operate 22 towboats and approximately 270 barges of the open and covered hopper types. In 1980 we moved approximately 7.3 million tons of commerce between Birmingham and Mobile of which approximately 3.3 million tons was coal from North Alabama to Mobile for export. We currently have an order for delivery in 1981 three (3) towboats and fifteen (15) barges. This equipment will permit us to handle an additional 1.1 million tons of export coal for which we presently have assurance from our major customers will move through the Port of Mobile. Additionally, we have serious inquiries from our present customers and other potential customers the need for an additional 3.0 million tons of coal to begin moving in 1982. (Attached is a copy of our tonnage moved in 1980 and a projected volume for 1981, 1982 and beyond, based on the best information we are able to obtain.)

Our problems on the Warrior-Tombigbee Waterway System are two-fold:

1. Sufficient funds required for maintenance and dredging in FY 1982 and beyond are needed if the system is to be a reliable transportation artery. In 1980 we experienced severe shoaling on the system that suspended navigation for some thirty-five (35) days. In addition, we experienced approximately thirty (30) days lock outages for repairs to locks that were not anticipated. Sufficient funds are necessary each year to maintain the project depth on the system and make the necessary lock repairs to assure an uninterrupted flow of commerce.

2. Oliver Lock at Tuscaloosa was completed in 1940 to accommodate a four (4) barge tow and is becoming a serious bottleneck to future growth of this transportation artery. The other five (5) locks on the Warrior-Tombigbee System are of modern design and proper size for locking a towboat and up to eight (8) standard river barges in a single locking (lock size 600 feet x 110 feet). Oliver Lock which is 460 feet x 95 feet requires that each time a six barge tow is traveling the waterway the tow must be disassembled and part of the tow tied off before locking and this dictates at least twice the amount of time required to lock at the other locks. Not only does this require additional precious diesel fuel but also restricts the amount of cargo that can pass through the lock. At a recent meeting between the Corps of Engineers and the Warrior-Tombigbee Association it was reported by the Corps of Engineers that it appears Oliver Lock is about 65 percent of capacity. This utilization is based on traffic already on the river. In Warrior & Gulf's projection of tonnage all of which will require passing through Oliver Lock, we estimate the equipment to move an additional 4.0 million tons by 1982 will require an additional 1,880 lockages. In 1980 a review of the locking statistics maintained by the Corps of Engineers indicated 7,846 lockings were made. On this basis, Warrior & Gulf will need 24 percent of the remaining 35 percent capacity left at Oliver. From my some eighteen (18) years of experience in the waterway industry, I am not naive enough to think we will be the only carrier to experience this tremendous growth. Other carriers presently using the waterway will also realize growth and I feel very strongly that by early 1983 we could reach a saturation point at Oliver Lock. I strongly urge that the Corps of Engineers be encouraged to speed up the study of the Oliver Lock replacement and that necessary funding can be obtained as needed.

I have reviewed the Corps of Engineers request for FY 1982 and feel that what they are requesting for the Warrior-Tombigbee System is needed and urge you to recommend to the Senate these funds be allocated.

EXHIBIT I

A & G TRANSPORTATION COMPANY
and
WARRIOR & GULF NAVIGATION COMPANY
Projected Tonnage for
Warrior-Tombigbee River System
(In Millions)

	Actual	Projected				
Commodity	1980	1981	1982	1983	1984	1985 and Beyond*
Northbound:						
Ores	2.70					
All Other	.06					
Subtotal	2.76	2.76	2.76	2.76	2.76	
Southbound:						
Steel Products	.30	.30	.30	.30	.30	
Coal	4.10	5.10	6.10	7.10	7.81	
All Other	.16	.16	.16	.16	.14	
Subtotal	4.56	5.56	6.56	7.56	8.25	
GRAND TOTAL	7.32	8.32	9.32	10.32	11.01	
% Increase from 1980 Base Year		14%	27%	41%	50%	

*1985 and beyond projected to experience growth at a rate of 3% annually.

Statement of Lewis E. Akin, Plant Manager, Chicago Bridge & Iron Co., Birmingham, Ala.

Dear Sir:

Please accept this statement as one of general support for the testimony to be given by President Sheldon Morgan of the Warrior-Tombigbee Development Association, Birmingham, Alabama. As a board member of this association, we have participated in the collective efforts to improve the efficiency and reliability of the Warrior-Tombigbee Waterways because it results in lower freight rates for our products and contributes significantly to efficiency in energy consumption. The importance of this in enhancing local, national and international trade is clear.

In mid 1970 my company constructed and opened a multimillion dollar fabricating facility on the Warrior River in Cordova, Alabama. This plant is equipped to fabricate, machine, weld, test and load on barge extremely large and heavy steel vessels for use in the nuclear and petroleum industries, as well as other fields such as chemical processing, pulp and paper, water and waste treatment, water storage and many others. The decline of nuclear as well as lack of expansion in oil refineries in recent years has compelled us to cease operation temporarily at this facility. We believe however, that the energy crisis we are now faced with in this country will soon result in a complete turnaround and that we will soon be utilizing the Warrior-Tombigbee System for shipment of the products above mentioned.

In summary, we feel the various projects now pending including the approximately $7.5 million (these are approximate amounts which may be refined for the oral testimony) for Operations and Maintenance of the Warrior-Tombigbee Waterway; $950,000 to continue the expedited study on Oliver Lock replacement and the remainder of the waterway; and $3.7 million for Operation and Maintenance and efforts toward deepening the Port of Mobile are all essential for my company and for the economy of our state.

We respectfully request your dedicated support.

Statement of J. H. Murphy, Jr., General Manager, Georgia Transporters, Inc.

Dear Sir:

Georgia Transporters, Inc. would like to be on record that we whole heartily endorse the testimony which will be given by Sheldon L. Morgan, President of the Warrior-Tombigbee Development Association. We ask that you give this testimony serious consideration.

Georgia Transporters, Inc. was formed in 1952 and has moved considerable tonnage of petroleum products safely and effeciently and is presently operating three tow boats and five tank barges on the Inland Waterways, predominately in the Gulf Coast area.

We are enclosing a picture of our new tow that was put into operation on the Warrior-Tombigbee waterways in December 1980. The picture is particularly symbolic as we do not move cities, as it may seem, we engage in moving via waterways, fuel and energy that the cities must have. This particular tow represents an investment of over $3,000,000.00 and will move 26,000 barrels (3,800 tons) of crude oil from Mobile Harbor to Vulcan Refining at Cordova, Alabama and return to Mobile with 25,000 barrels (3,800 tons) of #6 oil from the refinery to various terminals within the Mobile area. The barge pictured is reportedly the largest inland barge ever built; it is a 370' x 54' x 12' double-skin barge.

We resumed operating on the Warrior-Tombigbee waterways in December 1980 after an absence of several years. Our decision to re-enter this waterway was the result of the improvements in the system that have been made in the past. However, during the first sixty day period, we experienced lock delay of 28 hours at the Oliver Lock and Dam in Tuscaloosa. This lock is only 90' wide and 460' long and has become a bottleneck to the orderly flow of traffic. The 28 hours is approximately 500% over what we would normally expect. If these delays continue, needless to say, this low cost and energy efficient water transportation service to the area will be affected.

It has been our policy to make investments in equipment based on long term cost recovery and profit. However, we and the industry cannot continue making long-range plans if the Government does not respond with an equal amount of long-range optimism to justify these kind of expenditures.

It is our belief that the Government's negative attitude toward water resources development which has been inspired by extreme environmentalists has sharply retarded the development of all waterway systems. We further feel that Congress must resume the roll as policy maker which it has deferred to various Federal agencies which have little regard to the economics of water transportation.

STATEMENT OF LARRY A. SEALS, VICE PRESIDENT, MARKETING, DIXIE CARRIERS, INC.

My name is Larry A. Seals. I am Vice President, Marketing of Dixie Carriers, Inc. My office is located at 1717 St. James Place in Houston, Texas. I have had over sixteen years in the transportation field and have been Vice President at Dixie Carriers for the past five years.

Dixie Carriers is a diversified barge line in that we operate approximately 50 oil tank barges, 18 clean products barges, 10 dry cargo barges, 6 offshore barges utilizing 25 towboats. While we serve principally the Gulf Coast we also have service on most all of the inland waterway system including service across the Gulf of Mexico to Florida. We also have Common Carrier authority over all of the Gulf Intracoastal Waterway and on the inland river system to Chicago and Pittsburgh. This service includes the Warrior-Tombigbee Waterway to Birmingham.

Dixie has been in operation since 1948 when it purchased the assets, including floating equipment and operating authority, of River Terminals Corporation, and was renamed Dixie Carriers, Inc. In the intervening years we have moved cargo many times to and from points on the Warrior-Tombigbee Waterway. Our service, in most every instance, has been limited to shipments between points on the Warrior-Tombigbee Waterway and points on the Gulf Intracoastal Waterway. For example, since 1965 approximately every 25 days, we move a very large combination oil and dry cargo barge between Houston, Texas and Birmingham, Alabama. This barge contains bulk and packaged petroleum products. We also have had coal and chemical movements many times to and from numerous points on the Warrior-Tombigbee Waterway. We do not however, compete on short haul movements.

From this history one can see that Dixie Carriers, Inc. is experienced with barge shipments on the Warrior-Tombigbee Waterway and we certainly support the testimony before your committee by Mr. Sheldon Morgan of the Warrior-Tombigbee Development Association.

Continued improvements on this waterway will be necessary in the years to come as it is a most difficult one to operate on. Because of the water conditions, much of the year more boat horsepower is required than on similar rivers. This makes the river a "high cost" operation and increased productivity is difficult to attain.

As our industry seeks ways to improve transportation efficiency including the improvement of enery efficiency we must also seek ways to improve the waterways. Barge transportation by its very nature is economical and everything possible must be done to see that it continued that way. The nation requires a healthy transportation industry and efficient waterways are a necessity in order to achieve this.

STATEMENT OF TIM PARKER, SR., PARKER TOWING CO., INC.

Dear Senator Hatfield:

My name is Tim Parker, Sr., and I am President of Parker Towing Company. We are a family owned and operated barge line that has transported barge traffic on the Warrior-Tombigbee Waterway for over forty (40) years.

I would like to lend my support to the testimony given by Sheldon Morgan, President of the Warrior-Tombigbee Development Association. The effort of this organization, to improve the reliability and efficiency of the Warrior-Tombigbee Waterway should be joined by all. This effort will result in lower rates for the public, energy efficiency, and is important to international commerce and our balance of trade deficit.

Parker Towing Company has been using the Warrior-Tombigbee Waterway since 1940. We move various commodities; coal, grain, steel products, cement products, petro chemicals, manganese ore and fertilizer are some examples.

In serving our customers, Parker Towing operates a fleet of sixteen (16) towboats, one hundred thirty-nine (139) hopper barges, and three (3) tank barges. This fleet is worked and maintained by one hundred fifty-four (154) personnel and serves the following sites on the Warrior-Tombigbee:

1.	Coyle	Mile 429	Mulberry Fork
2.	Port Walker	Mile 421	Mulberry Fork
3.	Moss Port	Mile 416	Mulberry Fork
4.	Vulcan Refinery	Mile 416	Mulberry Fork
5.	Gorgas Steam Plant	Mile 399	Mulberry Fork
6.	Port Osborne	Mile 398	Locust Fork
7.	Port Birmingham	Mile 397	Locust Fork
8.	Maxine Mines	Mile 390	Locust Fork
9.	Port Warrior	Mile 372	Warrior River
10.	Kellerman Preparation Plant	Mile 354	Warrior River
11.	Port Mayfield	Mile 351	Warrior River
12.	Abston Construction	Mile 348	Warrior River
13.	Warrior Asphalt	Mile 345	Warrior River
14.	Port McDonald	Mile 338	Warrior River
15.	Greene County Steam Plant	Mile 228	Warrior River
16.	Citadel Cement Company	Mile 214	Warrior River

17.	Mississippi Chemical Company	Mile 229 Tombigbee River
18.	Tom Soya Grain Company	Mile 316 Tombigbee River
19.	Barry Steam Plant	Mile 31 Mobile River
20.	Alabama State Docks	Mobile

From our main office, located at Mile 338.7, we are able to observe one of the main bottlenecks on the Warrior-Tombigbee System. William Bacon Oliver Lock at Mile 338.1 can be seen daily slowing traffic. As traffic increases, so will this bottleneck decrease the efficiency of movement on the river. The need for replacement of Oliver Lock is seen each day as we see our own boats and barges and those of many other companies laying idle waiting to lock. Funding for the study to determine the economic feasibility of the replacement of this lock is greatly needed and should be given high priority.

Continued dredging and other channel maintenance of the Warrior-Tombigbee, along with maintenance and deepening of Mobile Harbor are vital to the efficiency with which we can move the energy-rich resources of our nation. The increased efficiency is needed, as in all phases of industry, if the nation's productivity as a whole, is going to increase.

Included in the budget which your Committee is now considering are the following items bearing directly on the needs of the Warrior-Tombigbee Waterway:

Black Warrior and Tombigbee Rivers	Operation and Maintenance	$7,494,500
Warrior and Tombigbee Rivers, Alabama	Surveys	$ 958,000

Other needs allied to the Black Warrior-Tombigbee include:

Mobile Harbor	Deepening Survey	$ 700,000
Mobile Harbor, Alabama	Operation & Maintenance	$3,044,000

I fully endorse and seek the approval of these items and appreciate any consideration your Committee would lend to them.

Statement of T. H. Findlay, President, Findlay Towing Co., Inc.

Dear Sir:

My firm is engaged in the transportation of coal on the Black Warrior - Tombigbee River in the state of Alabama. This coal is transported by energy efficient towboats and barges to steam generating plants that produce electricity. In 1980 my firm transported approximately one and one half million tons of coal to these generating plants, and I expect to equal or increase that amount for 1981. I have been in the marine transportation business since 1945, and I have seen a tremendous increase in tonnage moved on this river each and every year. I'm sure this increase is due to the fact that marine transportation is the cheapest means of transportation in our country. Another reason for the increase in tonnage moved on the Black Warrior - Tombigbee is the replacement of small antiquated locks and dams by fewer and larger modern locks. The one remaining small lock on the BW - T River is the Oliver Lock located at Tuscaloosa. This lock is now under study for replacement, and it is my hope that I will see work started on a new standard size lock in the not so distant future. The Oliver Lock has become a "bottleneck" for barge traffic on this river, and the problem will increase as more tonnage is moved on this river. The coal producing industry located just north of Tuscaloosa ships tremendous amounts of coal by river to the steam generating plants in Alabama and to the Port of Mobile for export.

I agree with our new administration in Washington that government spending had gotten completely out of hand, but I do believe that we must retain and utilize the proven cost efficient methods of the past concerning transportation if we are to be successful in our fight against high costs and inflation.

Statement of Theodore Stevenson, General Superintendent United States Steel Corp.

Dear Sir:

We wish to register our support for continuing development and improvement of the Warrior-Tombigbee Waterway. United States Steel has made extensive use of this waterway for the past 27 years.

Current materials being transported for U. S. Steel and approximate annual tonnages are as follow:

Up River	
Iron ore from Venezuela Ore concentrates from Canada Iron ore pellets from Brazil and Canada	2,700,000 tons per year
Fluorspar	12,000 tons per year
Ferromanganese	18,000 tons per year

Down River	
Coal for export (forecast-future development)	2,000,000 tons per year
Scrap for U. S. Steel @ Texas	350,000 tons per year
Finished steel products	100,000 tons per year

These tonnages represent the requirements for an industry supporting over 9000 U. S. Steel employees in the Birmingham area. All of these materials traverse the entire Warrior-Tombigbee system from Port Birmingham to Mobile.

We feel that it is important that this waterway be maintained in an efficient manner, such as to minimize outages and lock delays.

STATEMENT OF CARL P. FARLOW, PRESIDENT, AMERICAN CAST IRON PIPE CO.

Dear Senator Hatfield:

My company, American Cast Iron Pipe Company, has had a vital and continuing interest in commerce on the Warrior-Tombigbee Waterway for many years. Some twenty-five years ago, we made our first barge shipments to Mobile by trucking cast iron pipe from our plant in North Birmingham, Alabama to the banks of the Warrior River fifteen miles away.

Commencing in 1964, we increased our barge movements of cast iron and ductile iron pipe on the Warrior-Tombigbee Waterway. We have used the facilities of the Alabama State Docks at Cordova, Alatama; the Warrior and Gulf Navigation facilities at Birmingport, Alabama, and the facilities of Osborne Trucking Company at Port Osborne, Alabama.

We have shipped via Warrior and Gulf Navigation Company and Parker Towing Company to the Port of Mobile. We have shipped barges direct to Jamaica without transfer at Mobile, using the services of Adams Marine. We have shipped lash barges to Indonesia, using the services of Central Gulf Shipping Company. We have shipped barges via Alarico Barge Lines direct to Puerto Rico, with transfer at Mobile.

Our barge activity during the last fifteen years would undoubtedly have been much greater had we not been plagued with problems of low water, locks going out of service for long periods of time, and slow transit, due to the necessity of moving a limited number of barges through the locks at one time.

Our total export tonnage through the Port of Mobile varied from 5,000 to 30,000 tons per year during the last fifteen years. We have barged as much as 4,000 tons of pipe in a single year. In some years we have not barged anything. In 1980, we did not ship any barges to Mobile. Our plans are uncertain for 1981. We do have substantial export orders for pipe, but the uncertainty of barge schedules makes us reluctant to risk demurrage on ships at Mobile.

You can judge by the foregoing that we do avail ourselves of water transportation. Under proper conditions it is a useful, economical mode of transportation. I strongly urge you to support the program for expanded operations and maintenance of the Warrior-Tombigbee Waterway.

STATEMENT OF CHARLES R. LOWMAN, GENERAL MANAGER, ALABAMA ELECTRIC COOPERATIVE, INC.

Dear Senator Hatfield:

We support the collective effort by the Warrior Tombigbee Development Association to improve the efficiency and reliability of the Warrior-Tombigbee Waterway. This waterway provides a means of shipping that is both energy efficient and cost effective in transportating coal to produce energy for the electric consumers in our area.

Alabama Electric Cooperative, Inc. (AEC) is a generation and transmission electric cooperative that supplies wholesale power to eighteen distribution cooperatives, four municipalities, and two industries in South Alabama and Northwest Florida.

Presently, AEC has two coal-fired generating plants. The Tombigbee Plant is located near Jackson, Alabama on the Tombigbee River and Southern Railroad and has barge and unit train unloading facilities. The McWilliams Plant is located at Gantt, Alabama on the Conecuh River and Southern Railroad. Unfortunately, the Conecuh River is not navigable and the McWilliams Plant has only rail service. During the past year the rail service on this line has been reduced to only three times per week.

In addition to these facilities, a prime and alternate site have been selected in Choctaw County, Alabama for an additional 1600 MW of coal-fired capacity. The prime site is located on the Tombigbee River and rail and water transportation will be available at this location. The alternate site is not located on the river and will only have rail transportation.

A power requirement study has just been completed and is currently being reviewed in an effort to determine when this new generation will be required. The best estimate at this time is that the first of the new 400 MW generating units will be needed sometime in the period between 1987 and 1989.

AEC has recently completed the installation of two new 235 MW units at the Tombigbee Plant--its largest coal burning plant. The estimated burn for the Tombigbee Plant is 924,870 tons in 1981, 906,970 tons in 1982, 936,270 tons in 1983, 986,700 tons in 1984, and just over one million tons in 1985-1990.

AEC is planning to increase the capacity of the barge unloader and dredge located at the Tombigbee Plant during the summer of 1981. Upon completion of these two projects AEC is projecting to move approximately 60 percent of the coal to the Tombigbee Plant via barge versus 40 percent via rail.

One of the major factors in the selection of the prime site in Choctaw County, Alabama for the location of AEC's next generating plant was the availability of water transportation and the alternate source of fuel that would be available by way of the Warrior-Tombigbee Waterway. It is estimated that approximately 700,000 tons of coal will be burned in the first year of operation of the plant. This would increase to approximately 2.8 million tons per year within three years and is estimated to remain at this rate for the next thirteen years.

In addition to the coal that would be required, limestone will be needed in conjunction with the sulfur removal equipment (scrubbers). It is estimated that 58,000 tons of limestone would be used in the first year of operation. This is estimated to increase to over 233,000 tons per year within three years and remain at this rate for the next thirteen years.

All or a major portion of the coal and limestone that will be used at AEC's new generating plant will possibly be transported by barge through the Warrior-Tombigbee Waterway. This would result in tremendous savings on electrical energy cost for the member-consumers of the distribution cooperatives, municipalities and industries that are member/owners of AEC.

We urge you to support the efforts of our Warrior-Tombigbee Development Association to insure a continued reliable waterway.

Statement of Jerome Drummond, Vice President-Transportation, Drummond Coal Co.

Dear Mr. Hatfield:

I am writing you a statement representing Drummond Coal Company, who is in the business of mining, selling and agency, for Drummond's mine production and handling, agency wise, of Jim Walter Corporation. Drummond Coal Company has been in the business of moving coal on the Warrior-Tombigbee River systems for several years and have been in the export business since 1968.

Drummond, in 1980, had contracts for 3 million tons, but because of lock failures and high and low water on the Warrior-Tombigbee River, we were only able to ship 2.4 million tons. In 1981 Drummond has orders and anticipate 4 million plus tons to be exported. In 1982, Drummond is projected 4.25 million and 1983, 4.5 to 5 million tons.

We presently have two barge loading facilities at mile post 354 on the Black Warrior River capable of loading up to 6 million tons per year. These two facilities will be loading 2 million tons for Drummond Coal Company and 3 million plus tons for Jim Walter Corporation in 1981. We are presently loading at Port Osborne at mile post 399, and Port Birmingham at mile post 400 on the Locust Fork and anticipate 2 plus million tons in 1981 from these locations.

Drummond is in the process of building a new barge loading facility and preparation plant at mile post 402 on the Locust River capable of loading 3 million tons per year that will be completed in the first quarter of 1982. Also Drummond is in the process of building a new barge loading facility at mile post 418 on the Mulberry River capable of loading 2 million tons per year.

As you can see, barge transportation is a vital part of Drummond's stability. By using barge, Alabama coals are more competitive with the world producers.

Drummond payroll in 1980, was $54,000,000 for the people of Jefferson, Walker, Cullman, Marion, Winston, Tuscaloosa, and Fayette counties. Of this $54,000,000, over 40 percent is directly tied to the export business. By 1984, Drummond payroll will be in excess of $80,000,000 at which time over 60 percent will be tied directly to export coal. Jim Walter and Drummond Coal Company will be moving 8 to 9 million tons annually, all by barge, with an investment of over $600,000,000 in their mines.

I don't want to astound you with large figures, but I am stating that the economy of the mining counties of the State of Alabama depend greatly on a vital link, which is the Warrior-Tombigbee water system, from mine to market.

Hope this statement will enlighten you to the necessity of a continued good water system for the State of Alabama. As you are aware, with a much needed balance of payment for the United States, coal, will play a very large part in getting this nation back to where it was previously and the water systems play a very large role in doing so.

I want to thank you for your time in reading this statement and look forward to the opportunity to show you first hand the Alabama coal mines and water system.

STATEMENT OF EARL B. PARSONS, JR., VICE PRESIDENT-ELECTRIC OPERATIONS, GULF POWER CO.

Dear Mr. Hatfield:

Gulf Power Company is an investor-owned electric utility and a member of The Southern Company serving a 7,400 square mile area of the Florida panhandle. Our Company utilizes coal for over 95 percent of its total generation requirements consuming approximately 2.7 million tons per year. Over 90 percent of our coal deliveries are dependent upon waterway transportation.

Gulf Power currently moves approximately 1.2 million tons of coal on the Warrior River and/or through the Port of Mobile. The remainder of Gulf's coal delivered over the national river systems originates from the Southern Illinois Coal Basin vacinity and travels down the Mississippi River through the Port of New Orleans. From the ports of New Orleans and Mobile all waterway deliveries travel via the intercoastal waterway for delivery at our Pensacola and Panama City generating plants.

As you can see from Gulf's dependency on the Warrior River and the Port of Mobile, we wholeheartedly support the need for adequate funding to properly maintain and improve operations. It is imperative that Gulf continue to receive coal shipments in order to provide continued reliable electric service at the most economical cost to our customers.

As proven by our present usage and commitment to Alabama waterways and facilities, we plan to evaluate to the fullest extent possible usage of the Warrior-Tombigbee Waterway for coal originating in the Southern Illinois Basin and to utilize this new waterway system where it is possible and economically in our favor to do so.

In summary, we are in full support of the efforts of the Warrior-Tombigbee Development Association to provide efficient and reliable waterway systems for coal delivery. We feel that it is not only in Gulf Power's interest to support this worthy endeavor, but also in the best interest of our nation to improve our capabilities to transport coal and other commodities from points of origin to market places.

STATEMENT OF WALTER K. WILSON, JR., CONSULTANT, SOUTHERN INDUSTRIES CORP.

Dear Mr. Chairman:

I would like to give general support to the testimony being given your sub-committee today by Sheldon Morgan, President of the Warrior-Tombigbee Development Association, as well as the operators, businessmen, industries, and citizens submitting written testimony.

I have been observing the development of the Warrior-Tombigbee Waterway since I reported to the Mobile District, Corps of Engineers, for my first army assignment in 1929. On returning to the Mobile District as District Engineer in 1949, I found very little modernization or growth in use of the waterway had taken place since, in my earlier assignment, I had been in the survey parties on the headwaters of the Warrior River.

During my tour as District Engineer, modernization of the waterway picked up with the start of construction of Demopolis Lock and Dam and has continued at a steady pace up to the present. The growth of traffic has been ample evidence of the usefulness of the waterway and now we can see increased effectiveness with the Tennessee-Tombigbee project joining the river system.

In today's environment, with efforts underway to turn the economy around, to subdue inflation, to pare government expenditures and at the same time put more people to work and furnish assistance to those unable to support themselves, I recognize that the Congress may find it advantageous to slow the tempo of appropriations.

I am sure, however, as you analyze the requests for funds for operation and maintenance and for planning and improving this waterway and the Port of Mobile, you will find that many of the project goals ultimately will support and reinforce the efforts mentioned above. I put my faith in the ability of the Congress to balance the pros and cons, to work out the timing and phasing and before too long, to add the improvements requested to this vibrant waterway.

STATEMENT OF JAMES C. LUDWIG, VICE PRESIDENT, SOUTHERN COMPANY SERVICES, INC.

Gentlemen:

Southern Company Services, Inc., a subsidiary of The Southern Company and a sister company to Alabama Power Company, Georgia Power Company, Gulf Power Company and Mississippi Power Company, is directly involved in the procurement and transportation of approximately 35,000,000 tons of coal for electric power generation purposes in the Southern electric system. More than 5,000,000 tons per year of this amount is shipped by barge currently via the Warrior-Tombigbee River system and increases are expected in the future. Thus, we are vitally interested in improvements in and the level of fundings for the Warrior-Tombigbee projects.

Within the Southern electric system there are nineteen generating plants utilizing coal as the primary fuel. Five of these plants receive coal exclusively or primarily by barge - Plant Barry (near Mobile) and the Greene County Plant (near Demopolis) of Alabama Power Company; Plant Crist (near Pensacola) and Plant Smith (near Panama City) of Gulf Power Company; and Plant Watson (near Gulfport) of Mississippi Power Company. Although Plant Smith of Gulf Power Company is not currently receiving barge coal via the Warrior-Tombigbee River system, a major portion of its coal is being handled through the Port of Mobile and the Alabama State Docks.

Fuel (primarily coal) is the largest single operating expense faced by the operating companies of the Southern electric system and as such has a dramatic cost impact on its customers. Thus, our goal has to be to purchase and deliver coal at the lowest possible cost consistent with reliability and dependability of supply. In this regard it is vitally important that economical and reliable transportation modes be available to our system operating companies. The Warrior-Tombigbee Waterway system being in the center of the Southern electric system obviously provides one very important mode of transportation for coal to three of our four operating companies.

In 1980 there were several outages on the Warrior-Tombigbee River system. These outages represent added cost to us and our customers in terms of higher transportation costs and more expensive alternative sources of supply. Maintenance of the Waterway and improved locks are essential to ensure reliable transportation of coal to the above mentioned plants of the Southern electric system. We therefore fully support the statement of Mr. Sheldon Morgan, President of the Warrior-Tombigbee Development Association, and the points he has made regarding the Warrior-Tombigbee Waterway system today and for the future. We solicit your continued support of the Warrior-Tombigbee River system.

STATEMENT OF EDWIN J. HODDER, JR., VICE PRESIDENT, MARKETING AND TRANSPORTATION, JIM WALTER RESOURCES, INC.

Dear Sir:

The purpose of this letter is to show our strong support of the testimony to be given today by Mr. Sheldon Morgan, President of the Warrior-Tombigbee Development Association. The livelihood of the coal industry in our area is really predicated on an efficient waterway from Tuscaloosa to the sea.

Jim Walter Resources, Inc., Mining Division, employing 3,099 people currently, operates 6 deep coal mines in the Warrior basin of Alabama, two of which are dedicated entirely to export. By 1984, we will increase our tonnage from a current 4.5 million to over 8 million tons per year with our payroll increasing to 4,855 employees. Of that 8, some 5 million will report to the export market. In 1981, over 2 million tons will be exported, with at least 1.5 million moving down the Black Warrior River to McDuffie Terminal in Mobile. The ability to be able to move our coal expeditiously on this river is essential to the success of our export business.

Last year, over 100 days were lost to shippers on the river due to lock closures, dredging, etc. This forced us to either stock in anticipation of reopening of the river, with resultant demurrage loses for vessles waiting in Mobile, or to ship by rail, some $5.50 more expensive per ton!

In order for our coal to compete in world markets, we need to be able to take advantage of the economics of the large ocean carriers, carriers which draw considerably more water than is currently possible at Mobile. We vigorously support the dredging of Mobile channel to 55 feet.

We thank you for this opportunity to add our support to the objectives of the Warrior-Tombigbee Development Association.

STATEMENT OF JOSEPH M. FARLEY, PRESIDENT, ALABAMA POWER CO.

Dear Senator Hatfield:

Alabama Power Company is vitally concerned over the economy of the state of Alabama. As the major electric utility in Alabama, we appreciate the opportunity to support the statements of Mr. Sheldon Morgan, president of the Warrior-Tombigbee Development Association, in favor of the development of the Warrior-Tombigbee Waterway.

Alabama Power Company operates six coal-fueled electric generating plants which consume over ten million tons of coal annually to produce electricity for its customers. The coal supply for two of these plants is delivered almost exclusively by river barge.

Plant Barry, located on the Mobile River in Mobile County, receives over two million tons by barge annually; and the Greene County Plant, located on the Black Warrior River in Greene County, receives about 750,000 tons by barge annually.

It is essential for the company to purchase the most economical coal available for these plants and to have it delivered through an economical and dependable transportation system.

In recent years, the company has found it most economical to purchase most of the coal for these two plants from mines in Alabama coal fields. The company has some long-term contracts with such mines.

Completion of the Warrior-Tombigbee Waterway will provide an alternative potential source of coal for Alabama Power Company. As we need additional coal, the supply alternative of receiving coal transported on this waterway will be evaluated and compared to other sources. The economic choice may be from various sources, but we believe the existence of the Warrior-Tombigbee Waterway will be a positive factor in our efforts to secure the most economical coal supply.

Our heavy use of the existing waterway facilities causes us to be vitally concerned over their operation and maintenance programs. It is essential to us that the river system operate in a dependable manner.

As an electric utility, we recognize the importance of the existing and proposed water system to the economy of Alabama. For this reason we endorse the plans to complete the Warrior-Tombigbee Waterway and to provide for its efficient and dependable operation.

STATEMENT OF CLARENCE M. KILIAN, BIRMINGHAM, ALA.

Dear Senator Hatfield:

My name is Clarence M. Kilian. My address is 210 Yorkshire Drive, Birmingham, Alabama. For approximately 20 years I have been well informed on waterway development in Alabama. Currently I am a consultant in that and related fields.

Development of the Warrior-Tombigbee Rivers system in Alabama began in the late 1870's and progress was made until 1915 when the 17th (Bankhead) in a series of locks and dams was completed. This was a double lift lock, 95 feet wide by 460 feet, and traffic traversing it was less than half-million tons the first year after completion. That lock also has been replaced with one with a capacity consistent with current and future traffic.

Unfortunately maintenance funds for all of the locks were inadequate to maintain them in first class operating condition. Traffic also steadily increased beyond expectations. Delays were frequent. The older locks themselves fell into a state of disrepair and became hazardous to navigation. Areas downstream were threatened with increased flood hazard.

In the late 1930's the dilapidated condition of locks 10, 11 and 12 in the vicinity of Tuscaloosa, Alabama made traffic frequently impossible over the fall line - that area where the land elevation drops most acutely in the shortest distance of a stream's course. They were threatened with complete shutdown. The late Congressman William Bacon Oliver, realizing the seriousness of the situation, both economically and physically, was successful in having legislation enacted which resulted in the construction of the present William Bacon Oliver Lock and Dam, with a dimension of 95 feet x 460 feet. Since then all of the other 14 locks (including Bankhead) on the Warrior have been replaced with fewer structures, now six (6) in all. With the exception of Oliver, each has dimensions of 110 feet x 600 feet.

Consequently, Oliver Lock presents a serious and major obstruction to the smooth flow of traffic. Since 1940 - the year Oliver was completed - traffic has increased from about 2,000,000 tons annually to 18,000,000 tons annually. Oliver Lock is a serious bottleneck, one which will continue to become more acute as the tonnage, with the increasing movement of coal brought about by the energy crisis, continues to mount.

I will not dwell on operating problems resulting to towboat operators. They can do that better than I. However, I do wish to invite your attention to the fact that many of the broad and diverse economic benefits which supposedly were to have been derived from the replacement of the other obsolete structures on the River are forfeited because of the inadequacies of Oliver Lock. Much energy is wasted as a result of delays at Oliver and consequent inefficiency of operation.

As the members of your Committee well know, the capacity of a waterway, as with any other traffic system, is limited by its most constricted stretch. In the Warrior-Tombigbee System, that is the stretch in the approximate center of which Oliver is situated.

The completion of the Tennessee-Tombigbee Waterway within a few years will impose additional traffic burdens on Oliver Lock as well as other stretches of the Warrior-Tombigbee System downstream from the confluence of the Tenn-Tom System near Demopolis, Alabama.

I am aware of the desirability of close scrutiny of expenditures of public funds but I also recall the old adage "Penny wise and pound foolish". Perhaps you and your Committee members concur in that viewpoint as it applies to the completion of improvements in the Warrior-Tombigbee System.

I endorse the 1982 appropriations of the request of the U. S. Army Corps of Engineers as it relates to the Warrior-Tombigbee System.

With appreciation for any consideration your group will give my viewpoint, I am,

STATEMENT OF CARLTON BAKER VICE PRESIDENT, SOUTH CENTRAL BELL

Dear Senator Hatfield, the strength and viability of Alabama's commerce is closely tied to the economic health of the region in which it exists. For that reason, and for many others, I am writing to express my strong support for the continued modernization and maintenance of the Warrior-Tombigbee Waterway and the timely completion of the Tennessee-Tombigbee Waterway.

Maximum effectiveness of these Federal projects would more than double the value of the Port of Mobile to the State of Alabama and result in economic stimulation and industrial development of the whole area. It should add several millions of dollars to the economy of Mobile alone in the first few years after the waterway's completion. The benefit-cost ratio of the program means a substantial net profit to the region and the Nation. And, certainly, at this stage of the project, it would be tragic to lose the benefit of the investment to date.

The development of our national waterway systems would help to answer some of our Nation's pressing needs: It would increase productivity, aid agricultural production and sales, allow the United States to compete more effectively in foreign markets, increase energy efficiency, provide employment and industrial and commercial development. It would, in addition, bring a better utilization of water, provide flood control, and bring recreational benefits. And, finally, there is the national defense value of a network of navigable inland waterways.

There waterway projects, in particular, seem a sound investment in the future. For that reason, I support the testimony of Sheldon Morgan, president of the Warrior-Tombigbee Development Association on behalf of the project, and I urge that adequate appropriations be made to complete this vital, cost-effective program.

STATEMENT OF W. J. HEARIN, PRESIDENT, MOBILE (ALA.) AREA CHAMBER OF COMMERCE

Dear Senator Hatfield, on behalf of the Mobile Area Chamber of Commerce, we hereby wish to go on record in support of Federal funding for the Warrior-Tombigbee Waterway project.

As you know, this waterway serves as a vital artery for international trade through the great Port of Mobile. Presently, extensive shipments of export coal is being made to various overseas destinations. With the ever-increasing oil prices, it appears that the outlook for increased shipments of coal will be tremendous over the next several years. In addition to the export coal movements, the Warrior-Tombigbee Waterways also play an important role in our Nation's steel industries as large volumes of imported iron ore are discharged at the Port of Mobile and transferred by barge to the steelmaking center of Birmingham, Ala.

We, therefore, respectfully request that your committee give favorable consideration to the request for funds to operate and maintain this waterway system as well as to provide the necessary improvements and/or replacements, particularly the replacement of Oliver Lock.

PREPARED STATEMENTS OF CONGRESSMEN EDWARDS AND DICKINSON

Senator STENNIS. Congressman Edwards and Congressman Dickinson have submitted statements concerning these projects, which, without objection, will be made part of the record at this point.

[The statements follow:]

STATEMENT OF REPRESENTATIVE JACK EDWARDS OF ALABAMA

BLACK WARRIOR, WARRIOR, AND TOMBIGBEE RIVER SYSTEM

Mr. Chairman, it is good to come before your Committee today to again testify in strong support of the fiscal year 1982 funding request for the projects included in the Black Warrior, Warrior, and Tombigbee River System.

I am offering separate testimony endorsing the projects in the Mobile area, including the Mobile Harbor, the Theodore Ship Channel, Dauphin Island Bay, Perdido Pass, and the Gulf Intracoastal Waterway.

The President has requested $7.493 million for operation and maintenance on the Black Warrior and Tombigbee Rivers for fiscal year 1982. The bulk of this budget request is intended for use in routine dredging, snagging, upkeep and repair of locks and dams. We have kept the system in good operating condition and have replaced outmoded locks and dams, and traffic has grown from about 2.5 million tons in 1952 to about 17 million tons in 1979 -- a growth of 600%. The movement of coal by water is expected to double in future years, adding to the traffic level on the Warrior-Tombigbee River System. I would like to see the approval of the full budget request for operation and maintenance.

In addition to operation and maintenance funds, the President has requested $958,000 for General Investigations on the system in 1982. These funds will be used to continue a study to determine the feasibility of replacing the William Bacon Oliver Lock and the possible duplication of the Demopolis and Coffeeville Locks to accomodate the increased volume of traffic expected in coming years. Traffic congestion remains a problem on the river system, especially at the Oliver Lock, because its dimensions are smaller than those of other locks. The problems at the

Oliver Lock have affected the maximum use of other locks and have created serious delays in commodities shipments. We have experienced a number of lock and maintenance closures along the system in the past several years, and traffic congestion has made it very difficult to plan wisely for these needed periods of maintenance. The General Investigations budget request represents the Corps' full capability, and I urge the Committee to approve the entire request.

Mr. Chairman, I am truly appreciative of your Committee's support for the Black Warrior, Warrior, and Tombigbee River System in the past. It is important that we continue to adequately fund the system, and I look forward to the Committee's approval of the full budget request for fiscal year 1982.

MOBILE BAY AREA PROJECTS

Mr. Chairman, I am glad to be here to request appropriations in fiscal year 1982 for a number of important projects in my Congressional District in the Mobile Bay area. This request includes funding for a study of the deepening of Mobile Harbor as well as the critical operation and maintenance activities for Bayou La Batre, Dauphin Island Bay, the Dog and Fowl River project, the Mobile Harbor, and others.

The Administration has requested $700,000 to continue engineering and design work on plans to deepen and widen Mobile Harbor to prepare the port for deep draft vessels. This Committee is aware of the Corps of Engineers recommendation to establish Mobile Harbor as a deep water port by deepening and widening the channel to 55 by 700 feet. That plan has progressed favorably and this additional funding is essential for the future development of Mobile Harbor. I urge your approval of this item in the budget request.

In past years I have come before this Committee to support the Theodore Ship Channel project. Because of your help, contracts have been let on the Theodore Channel and no additional funding is being requested for fiscal 1982. The Theodore project will expand deep-draft port facilities in the Mobile Harbor area and will stimulate the Theodore Industrial complex. This project will be the culmination of cooperative efforts among Federal, State, and local authorities as well as private industry to provide substantial economic benefits to the Mobile area and the entire Southeast. I appreciate the Committee's past support of this important project.

The majority of the Administration's requests for funding for the Mobile area are for important ongoing maintenance activities. Our major industries in the Mobile area, as well as commerce from other areas of the nation, are dependent on an efficient waterway system for transportation of goods. Commercial and recreational fishermen depend on having access to fishing areas in authorized channels, in Mobile Bay and in the Gulf, and they depend on having reliable access to safe harbors. These are just a few reasons why these maintenance activities are so vital.

For Bayou La Batre, the Administration has requested $108,000 for operation and maintenance. Bayou La Batre is an economically distressed fishing community with severe congestion problems in its harbor. The Corps has been studying possible improvements to the harbor, but in the meantime, it is essential that the area is adequately maintained. I urge your approval of full funding for this project.

The President's budget includes $154,000 for operation and maintenance for Dauphin Island Bay. $244,000 has been requested for the Dog and Fowl River project and $127,000 has been requested for Perdido Pass. The budget calls for $3.04

million for Mobile Harbor operation and maintenance and $2.52 million for the Gulf Intracoastal Waterway.

I appreciated the Committee's assistance last year in including funds for two unbudgeted projects in my District: dredging work on Bayou Coden and the Bon Secour River. That work was critically needed because of the effects of Hurricane Frederic on Bayou Coden and the delayed sponsorship of the Bon Secour project. Maintenance is still essential for these projects, and I am pleased to know that the Administration has requested $114,000 for Bayou Coden and $239,000 for Bon Secour operation and maintenance. I trust these requests will be approved.

Mr. Chairman, I would like to close my remarks by expressing my awareness of the budget constraints under which we are operating. Obviously, many of the important water and navigation projects in Alabama and my District actually require funding in addition to those requested by the President, and I would certainly prefer full funding of the Corps' capability on each project. But I am committed to the President's economic goals and I support his budget figures.

Thank you, Mr. Chairman, for allowing me to provide my views.

STATEMENT OF REPRESENTATIVE WILLIAM L. DICKINSON OF ALABAMA

Mr. Chairman, members of the subcommittee, I appreciate very much the opportunity to appear before you again this year to discuss the FY 1982 budget request of the Corps of Engineers for maintaining, operating and improving the established and vital Warrior-Tombigbee River System.

The Warrior-Tombigbee serves a multitude of users to include--manufacturers; iron ore and steel; finished products; coal and petroleum; small and big business and private citizens.

Use of this system has boomed. Twenty-six years ago it carried three million tons a year. Today, its traffic is approximately 17 million tons.

We appreciate the improvements which have already been made to the system. All of the outmoded and inadequate locks have been updated except one--the William Bacon Oliver Lock and Dam at Tuscaloosa. Because it is less than standard width and length and smaller than the other locks on the system, it has become a bottleneck, and is stalling the orderly flow of traffic. Therefore, we are requesting $958,000 to support completion of the study dealing with Oliver Lock as well as continuing the study on other improvements in the waterway. This study would also determine the desirability of improvements in the upper reaches of the Warrior River for water supply, low flow augmentation, flood control and other factor.

I would also strongly recommend approval of $7,464,500 requested by the Corps of Engineers for operation and maintenance on the Warrior-Tombigbee facilities and channel within Alabama as well as a hard look at the Corps capability--the other area not covered by this budget request.

Mobile Harbor is one of the finest harbors in the entire world. It is vital to the economic prosperity of not only my District, but the state of Alabama and the entire southeast. Please approve $3,044,000 for operation-maintenance of Mobile Harbor Facility as well as $700,000 for the deepening survey of the Harbor.

I have highlighted some specific items above. Below I have a complete list of the U. S. Army Corps of Engineers Civil works budget request for Warrior-Tombigbee for FY 1982, and request that you favorably consider each of these items:

Black Warrior and Tombigbee Rivers	Operation and Maintenance	7,464,500
Warrior-Tombigbee Rivers Alabama	General Investigation	958,000
Mobile Harbor Alabama	Operation and Maintenance	3,044,000
	Deepening Survey	700,000

These are good projects, they are necessary projects and I urge the committee to fully fund the requests of thje Warrior-Tombigbee development association.

Thank you, Mr. Chairman

CLOSING REMARKS

Senator STENNIS. All right, Mr. Morgan. We certainly thank you and your supporters, all of you, for your continued interest and for coming here today. You have a good case now. You stay with it because, as you know, we don't get all of these things done at once. You mentioned soy beans and oil. I have seen that very area there switch over from cotton, now to soy beans.

Mr. NICHOLS. Yes.

Mr. MORGAN. Much better cash crop right now. Couldn't sell the cotton too well.

Senator STENNIS. I know it has a great potential there in the future, with low-cost transportation. I don't have any doubt from what I know about the energy, new sources of energy we have got to have and all the other things, that coal is going to come down those rivers there going to ports for foreign shipment. All those things are going to move together far beyond our time.

I am glad to be your neighbor. I said to some of you here, when I was a judge and had jurors in, we wanted to know something about them, where they came from, where they were born. Those fellows said they were born in Alabama. That was a strike in their favor for me. Pretty solid folks.

I have traveled through there a lot, too. I am a Mississippi State man for long years. I have been over to Tuscaloosa trying to beat your football team. Back in the 1930's and 1940's we used to win games once in a while. But you have Bear Bryant over there.

Mr. MORGAN. You beat my school Auburn a few times.

Senator STENNIS. Auburn, we played Auburn a long time. I am going to keep my manners. I won't mention what we did to Alabama last year. Thank you very much. You come back; I appreciate your interest very much.

The next group here now is Mr. Paris, chairman of Minority People's Council on the Tennessee-Tombigbee Waterway.

Come on around, Mr. Paris.

Nice to have you here as a witness. We appreciate it. You have a statement here. You just proceed in your own way. If you want to read all of it, that will be all right. If you want to put it in the record and summarize it, that will be all right. Just whichever you wish.

TENNESSEE-TOMBIGBEE WATERWAY

STATEMENT OF WENDELL PARIS, CHAIRMAN, MINORITY PEOPLE'S COUNCIL ON THE TENNESSEE-TOMBIGBEE WATERWAY

MINORITY PARTICIPATION

Mr. PARIS. Thank you, sir. I would like to say I appreciate the opportunity to come before you. I think you know of our continuing interest. We met with you a long time ago back with Claud Ramsey in your office to get kicked off on the right road with affirmative action. I am happy to say we are continuing in that vein.

I would like to read my statement to point out some of the advances we are making. We are concerned we are not moving quite fast enough.

Senator STENNIS. All right. You proceed now. Pull the microphone back to you so everyone can hear what you say.

Mr. PARIS. I am Wendell Paris, chairman of the Minority People's Council on the Tennessee-Tombigbee Waterway. Our organization has over 4,000 members organized into 15 or more county chapters in the counties bordering the waterway. We are in Alabama and Mississippi from Mobile to the Tennessee line.

The major goal of our organization is to insure that minorities and poor people receive a fair and proportionate share of all of the benefits of this $2 billion Federal public works project. Our goal is to insure that minorities, women, and poor people receive a fair share of the training, jobs, contracts, positions on decisionmaking boards, and other benefits of the Tennessee-Tombigbee Waterway, during the construction and subsequent development phase of the project. Forty percent of the population in the TTW corridor is Black and about half the population is low income.

The Minority People's Council has consistently supported full Federal funding for construction of the Tennessee-Tombigbee Waterway, provided that minorities, women, and poor people are given an equitable share of the jobs, training contracts, and other benefits of the project. The Tennessee-Tombigbee Waterway construction contracting and monitoring agencies and companies must live up to their promises to minorities, women, and poor, to earn the continuing support of the Minority People's Council and the minority community in the waterway area generally.

In response to MPC's testimony in 1976, Congress passed section 185 of the Water Resources Act of 1977, which is Public Law 91-585. In there it says:

> The Secretary of the Army, acting through the Chief of Engineers, is directed to make a maximum effort to assure the full participation of members of minority groups, living in the States participating in the Tennessee-Tombigbee Waterway Development Authority, in the construction of the Tennessee-Tombigbee Waterway project, including actions to encourage the use wherever possible, of minority-owned firms. The Chief of Engineers is directed to report on July 1 of each year to the Congress on the implementation of this section, together with recommendation for any legislation that may be needed to assure the fuller and more equitable participation of members of minority groups in this project or others under the direction of the Secretary.

As a result of this legislation and as a result of some searching documents we have prepared, we have shown basically that the Corps of Engineers has now turned away from its goal of not really supporting minorities where the Corps is now actively getting and seeking minorities for these jobs, but we are having a difficult time with the contractors and a lot of time with the proponents in getting the proportionate representation and getting the amount of minorities that we need on these jobs. I have listed here, and the table that is attached, some of the cumulative work force statistics that comes out of the Tennessee-Tombigbee Affirmative Action Committee and shows that although we are nearing compliance overall in the aggregate percentages near 30 percent, the compliance by craft that the plan calls for is very short. So we are somewhere close to 20 percent in compliance by crafts when the plan presently calls for 30-percent compliance.

ACTION RECOMMENDED

We have listed some steps that we feel the Appropriation Committees should take in regard to continuing the funding of the Tennessee-Tombigbee Waterway project.

One is that the Congress reaffirm and strengthen its support for section 185 of the Water Resources Act as a means of targeting these public works resources to the needs of minorities and poor in the Tenn-Tom corridor; that the Appropriations Committees mandate that 10 percent of the remaining uncontracted funds for the Tennessee-Tombigbee Waterway project be set aside for minority prime and subcontractors. This would mean that $70 million of the $700 million remaining to be contracted would be set aside for minority contracts. This would encourage the development of more minority contractors and joint ventures to help minority firms get established in the commercial construction field.

There is legislative and legal precedent for such action in prior EPA-public works legislation which was held constitutional by the Supreme Court in the recent *Fullilove* case.

Three, that the Appropriations Committee require full compliance with the goals of the TTW areawide affirmative action plan as a condition for current and future funding of the waterway. The appropriation for Tennessee-Tombigbee should contain provisions to automatically reduce the funding for the Tenn-Tom Waterway if the affirmative action goals are not met and maintained by October 1, 1981, when this fiscal year 1982 appropriations becomes operative.

The appropriation for TTW should be reduced by the degree that the project is not in compliance with the 30-percent goal for minority employment in the crafts and overall on October 1, 1981, or for any other quarterly period when compliance falls below the goals in a prior quarter.

Four, that the Appropriations Committee set aside 1 percent of the appropriation for the Tennessee-Tombigbee Waterway to support a Tennessee-Tombigbee minority resource center which would have staff and resources to increase minority participation on the waterway. The Tennessee-Tombigbee minority resource center could be created as a special project of the Tennessee-Tombigbee corridor study. Only organizations with a board of directors, 51 percent or more composed of minority people living in the TTW corridor, would qualify to bid for the fund to operate the minority resource center. This would expedite the development of the center and allow it to begin working immediately to assist the minorities, women, and poor in the area.

In conclusion, the MPC feels the U.S. Army Corps of Engineers, the contractors, unions, and other Federal agencies have made a remarkable progress in physical construction of the water while concern for the human resources development in the TTW has lagged behind. The Corps and others have closely monitored the consistency of the concrete going into the construction of the locks and dams but they have not been equally careful in enforcing the requirements in the composition of the work force building the waterway.

The Minority People's Council would like both the physical and the human dimensions of the Tennessee-Tombigbee Waterway project to have more equal consideration. We thank you for the opportunity to address you today on behalf of our membership.

Senator STENNIS. All right. You have an excellent paper here. You have a lot of figures and facts here. That is very good. We are glad to have it in the record and pleased that you could come here, too. Where do you live?

Mr. PARIS. I am from Gainesville.

Senator STENNIS. Where?

Mr. PARIS. Gainesville. You know where Gainesville is.

Senator STENNIS. I know where it is. Do you know where Dekalb is?

Mr. PARIS. Yes, sir; I passed through there a time or two.

Senator STENNIS. Fifteen miles from Gainesville. You know there is a book out, the title of it, "Influential Times in Alabama and Mississippi." It was written by a lawyer that then lived at Gainesville, Ala. The date of that book is 1840. Now, we will bring back those influential times.

Mr. PARIS. Influential times; yes, sir.

Senator STENNIS. You just keep working now on these projects here that these witnesses have been testifying about. That will help bring back those influential times that he wrote about.

Mr. PARIS. I understand that we used to have at least two cotton gins in Gainesville.

Senator STENNIS. That is right. My grandfather shipped his cotton to Mobile through Gainesville, Ala. That is the way he took it to the Tombigbee River. Then he would have to wait for the water to rise in the fall before they could send it on down. I have some of those receipts when it got to Mobile.

Mr. PARIS. We are looking forward to this waterway coming through. Needless to say, it will do quite a lot to help our people. We are concerned that we spend some time getting the people prepared for the project as it comes. We made the mistake, according to the research we defined, the Tennessee Valley Authority went ahead with the physical construction and did not prepare the people for the jobs and did not allow them the business opportunities. It was lagging behind because the people were not prepared.

So our effort is to get, while the waterway is under construction and immediately thereafter, some opportunity for the poor, and especially minorities, in the corridor to own as well as joint venture with other people in some of the businesses that are coming. We are working with cooperatives, we are close to a million acres of land and about 250,000 of those acres are presently laying idle. And we would hope that through grain beans and through bringing in grain from the Midwest down to our poor farmers that we can see some comparative advantages there that would help us to live a little better life.

Senator STENNIS. You are on the right track. You are doing good work. You keep on.

Mr. PARIS. Thank you very much.

Senator STENNIS. Thank you very much.

[The statement follows:]

STATEMENT OF WENDELL PARIS, CHAIRPERSON, MINORITY PEOPLE'S COUNCIL

I am Wendell Paris, Chairperson of the Minority People's Council has over 4,000 members organized into 15 or more county chapters, in the counties bordering the Waterway, in Alabama and Mississippi, from Mobile to the Tennessee line.

The major goal of our organization is to insure that minorities and poor people receive a fair and proportionate share of all of the benefits of this $2 billion Federal public works project. Our goal is to insure that minorities, women and poor people receive a fair share of the training, jobs, contracts, positions on decision making boards and other benefits of the Tennessee-Tombigbee Waterway, during the construction and subsequent development phase of the project. 40% of the population in the TTW Corridor is Black and about half the population is low income.

The Minority People's Council has consistently supported full Federal funding for construction of the Tennessee-Tombigbee Waterway, provided that minorities, women and poor people are given an equitable share of the jobs, training contracts and other benefits of the project. The Tennessee-Tombigbee Waterway construction contracting and monitoring agencies and companies must live up to their promises to minorities, women and poor, to earn the continuing support of the Minority People's Council and the minority community in the Waterway area generally.

In response to MPC's testimony in 1976, Congress passed Section 185 of the Water Resources Act of 1977 (Public Law 91-585):

"The Secretary of the Army, acting through the Chief of Engineers, is directed to make a maximum effort to assure the full participation of members of minority groups, living in the States participating in the Tennessee-Tombigbee Waterway Development Authority, in the construction of the Tennessee-Tombigbee Waterway project, including actions to encourage the use wherever possible, of minority owned firms. The Chief of Engineers is directed to report on July 1 of each year to the Congress on the implementation of this section, together with recommendation for any legislation that may be needed to assure the fuller and more equitable participation of members of minority groups in this project or others under the direction of the Secretary" (emphasis supplied).

As a result of Section 185, and as a response to critical reports from MPC-our "White Paper I" for example - the U.S. Army Corps has become more concerned and sensitive, over the years, to the need to provide minorities, women and local residents with a fair share of the TTW construction benefits. Special Bid Conditions for an Areawide Affirmative Action Plan, requiring a goal of 30% minority workhours, in every craft, by every contractor, has been made part of all TTW contracts. Special contract provisions, requiring minority set asides of subcontracted work have been developed. A worker-trainee program to place more minorities in entry level positions with the craft has been initiated. A Tennessee-Tombigbee Affirmative Action Committee (TTAAC) has been established which provides for a quarterly review and monitoring of affirmative action compliance efforts.

Despite these constructive steps, there is still a long way to go as indicated by the data below:

- .Table No. 1: Cumulative Workforce Statistics. (attached) shows for the period July 1, 1979 to September 30, 1980 that in the crafts, total workhours were 3,561,926 and minority workhours were 731,000 or 21%, which means we have reached only 2/3 of the goal.

- .Table No. 1 shows total minority workhours including craft and non-craft hours is 26%, which is also below the 30% minimum goal.

- .Table No. 1 also indicates that 38% of all minority workers were in the two lowest paying job categories of laborers and teamsters; while only 10% of all whites were in those jobs. 32% of all minorities, but only 7% of all whites were laborers.

- .Reports from the DOL-Office of Federal Contracts Compliance Programs (OFCCP) show that, with few exceptions, all of the contractors on TTW have been in non-compliance with the goals or the "good faith efforts" provisions of the Special Bid Conditions for Affirmative Action in employment.

- .Minority Business Utilization reports indicate no more than 2% of the total dollar volume of prime or sub-contracts on the Tennessee-Tombigbee Waterway, thus far, have been awarded to minority contractors;

- .Minorities are still significantly under-represented on decision making and planning boards dealing with the project.

It is, therefore, very difficult for us to testify in support of a full appropriation for the Tennessee-Tombigbee Waterway, without any reductions, when many other worthwhile programs are being cut, for example, food stamps, social security, Community Service Administration, Legal Services and many others. We can only recommend a full appropriation for the Tennessee-Tombigbee Waterway if it truly fulfills its economic and community development promises to people in the Waterway Corridor, particularly minorities, women and the poor.

The Minority People's Council recommends the following steps to the Appropriations Committees of Congress in regard to the funding of the Tennessee-Tombigbee Waterway:

1. That,the Congress reaffirm and strengthen its support for Section 185 of the Water Resources Act, as a means of targeting these public works resources to the needs of minorities and poor in the TTW Corridor.

2. That, the Appropriations Committees mandate that 10% of the remaining uncontracted funds for the Tennessee-Tombigbee Waterway Project be set aside for minority prime and sub-contractors. This would mean that $70 million of the $700 million remaining to be contracted would be set aside for minority contractors. This would encourage the development of more minority contractors and joint ventures to help minority firms get established

in the commercial construction field. There is legislative and legal precedent for such action in prior EDA-Public Works legislation which was held constitutional by the Supreme Court in the recent Fullilove case.

3. That, the Appropriations Committees require full compliance with the goals of the TTW Areawide Affirmative Action Plan as a condition for current and future funding of the Waterway. The appropriation for Tennessee-Tombigbee should contain provisions to automatically reduce the funding for the Tennessee-Tombigbee Waterway if the affirmative action goals are not met and maintained by October 1, 1981, when this FY '82 appropriation becomes operative. The appropriation for TTW should be reduced by the degree that the project is not in compliance with the 30% goal for minority employment in the crafts and overall on October 1, 1981 or for any other quarterly period when compliance falls below the goals in a prior quarter.

4. That, the Appropriations Committees, set aside 1% of the appropriation for the Tennessee-Tombigbee Waterway, to support a "Tennessee-Tombigbee Minority Resource Center" which would have staff and resources to increase minority participation on the Waterway. The Tennessee-Tombigbee Minority Resource Center could be created as a special project of the Tennessee-Tombigbee Corridor Study. Only organizations with a Board of Directors, 51% or more composed of minority people living in the TTW Corridor, would qualify to bid for the funds to operate the Minority Resource Center. This would expedite development of the Center and allow it to begin working immediately to assist minorities, women and the poor in the area.

In conclusion, the MPC feels that the U.S. Army Corps of Engineers, the contractors, unions and other Federal agencies have made remarkable progress in the physical construction of the Waterway while concern for human resource development in the TTW Corridor has lagged behind. The Corps and others have closely monitored the consistency of the concrete going into the construction of the Locks and Dams but they have not been equally careful in enforcing the requirements on the composition of the workforce building the Waterway. The Minority People's Council would like both the physical and the human dimensions of the Tennessee-Tombigbee Waterway Project to have more equal consideration. Thank you for the opportunity to address you today on behalf of the membership of the Minority People's Council.

TABLE NO. 1: WORK HOURS OF EMPLOYMENT
JULY, 1979 - SEPTEMBER, 1980 [1/]
BY PAY AND BY RACE - AN ANALYSIS

CRAFT	3RD QUARTER 1979 TOTAL WORK HOURS	3RD QUARTER 1979 MINORITY WORK HOURS	3RD QUARTER 1979 % MIN.	4TH QUARTER 1979 TOTAL HOURS	4TH QUARTER 1979 MINORITY HOUR	4TH QUARTER 1979 % MIN.	1ST QUARTER 1980 TOTAL HOURS	1ST QUARTER 1980 MINORITY HOURS	1ST QUARTER 1980 % MIN.
1. OPERATING ENGINEERS	511,132	98,556	19.2	508,077	92,532	13	336,736	33,179	10
2. CARPENTERS	90,840	20,376	22.4	89,746	16,755	19.0	82,671	13,637	16.0
3. IRONWORKERS	38,152	3,157	8.2	19,585	4,138	21.0	21,411	3,937	18.0
4. CEMENT MASONS	9,836	7,918	80.5	12,081	9,162	76.0	9,333	7,555	81.0
5. PLUMBERS AND PIPEFITTERS	2,322	721	31.7	3,956	1,013	25.0	2,926	530	18.0
6. ELECTRICIANS	2,291	0	0	6,999	794	11	10,366	1,256	12
7. SUBTOTAL FOR CRAFTS	654,573	130,728	20	640,464	124,394	19	463,943	60,094	19
8. TEAMSTERS	108,713	21,194	19.4	122,972	20,707	18.0	24,116	3,604	15.0
9. LABORERS	219,508	77,095	35.11	178,521	87,342	49.0	125,391	60,474	48.2
10. TOTAL WORKFORCE	982,794	229,017	23.3	977,415	252,732	26	666,789	142,792	21

[1/] Source: Reports from the Compliance Task Group of the Tennessee-Tombigbee Affirmative Action Committee

NOTE: The U.S. Department of Labor shows the 1979 pay rates for the above job categories as Operating Engineers, $8.05; Carpenters, $7.19; Ironworkers, $7.31; Cement Masons, $6.95; Plumbers and Pipefitters, ?; Electricians, $8.90; Teamsters, $5.78; and Laborers, $4.96.

TABLE NO. 1 CONTINUED

CRAFT	2ND QUARTER 1980			3RD QUARTER 1980			TOTALS		
	TOTAL HOURS	MINORITY HOURS	% MIN.	TOTAL HOURS	MINORITY HOUR	% MIN.	TOTAL HOURS	MINORITY HOURS	% MIN.
1. OPERATING ENGINEERS	507,161	116,642	23	869,458	189,729	22	2,732,584	530,638	19
2. CARPENTERS	125,167	27,239	22.0	140,525	31,892	23	528,949	109,899	21
3. IRONWORKERS	31,491	7,303	23.0	43,757	11,064	25	154,396	29,599	19
4. CEMENT MASONS	8,663	7,337	85.0	26,066	18,623	71	65,979	50,595	77
5. PLUMBERS AND PIPEFITTERS	5,528	874	16.0	8,555	1,003	12	23,298	4,141	18
6. ELECTRICIANS	11,411	976	9	25,134	3,162	13	56,721	6,188	11
7. SUBTOTAL FOR CRAFTS	689,421	160,371	23	1,113,525	255,413	23	3,561,926	731,000	21
8. TEAMSTERS	17,832	5,130	29.0	183,894	34,178	19	447,527	84,813	19
9. LABORERS	126,857	81,013	64.0	29,456	110,921	46	779,833	416,845	53
10. TOTAL WORKFORCE	886,497	261,985	30	1,590,276	421,609	27	5,103,771	1,308,135	26

SUBCOMMITTEE RECESS

Senator STENNIS. Now, without objection, the committee is going to recess until tomorrow morning at 10 in this room when the first matter for consideration will be the energy programs under the jurisdiction of the subcommittee.

Thank you very much all. We had a good attendance here and good testimony, too.

[Whereupon, at 3:40 p.m. Monday, March 23, the subcommittee was recessed, to reconvene at 10 a.m. Tuesday, March 24.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1982

TUESDAY, MARCH 24, 1981

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 10:05 a.m. in room 1318, Everett McKinley Dirksen Senate Office Building, Hon. J. Bennett Johnston presiding.

Present: Senator Johnston.

NONDEPARTMENTAL WITNESSES

SUBCOMMITTEE PROCEDURE

Senator JOHNSTON. The subcommittee will come to order.

In the absence of the chairman of the subcommittee, Senator Hatfield, I have been asked, as a member of the subcommittee, to preside over today's session. Senator Hatfield has asked me to express his regrets for not being able to be here this morning.

We have a large number of witnesses who wish to be heard. Therefore, in accordance with the notification to each of the witnesses, it will take some self-restraint on the part of everyone to hold down their oral testimony to a minimum so that everyone will have the opportunity to testify.

So, in keeping with the subcommittee's wishes, I ask that the detailed prepared statement that each of you has worked out very carefully be submitted for the record, where they will be very carefully reviewed. That is the record that the subcommittee will study in determining its judgment and recommendation for the upcoming year. Also, in this way you will have a carefully detailed record so that anyone who is not present will be able to arrive at an independent judgment. Then if each witness will summarize or highlight the important points in his oral testimony, it would be most helpful.

We will now proceed to call our first witness. The first witness on the list is Senator Dole, who had to open up the Finance Committee and who will be here shortly. So I would, therefore, like to welcome our good friend, the outstanding Congressman from Texas, Charlie Stenholm, from the 17th Congressional District. I think accompanying Congressman Stenholm will be Dr. John Reichert, project director, and Mr. Norton Barrett, city secretary.

Glad to have you this morning, Congressman.

CROSBYTON SOLAR POWER PROJECT

STATEMENT OF HON. CHARLES STENHOLM, U.S. REPRESENTATIVE FROM TEXAS

ACCOMPANIED BY:
JOHN REICHERT, PROJECT DIRECTOR
NORTON BARRET, CITY SECRETARY
TRAVIS SIMPSON, PROJECT DIRECTOR

INTRODUCTION OF ASSOCIATES

Mr. STENHOLM. Thank you, Mr. Chairman. It is my privilege to be here.

I would like to introduce those with me at the table. Dr. John Reichert from Texas Tech; Travis Simpson, who is the project coordinator of the Crosbyton solar power project; and Norton Barrett, city secretary from Crosbyton.

In doing as you ask, Mr. Chairman, as far as summarizing, what I would like to do is adhere to the belief that a picture is worth a thousand words and take about 7 minutes to show you a TV clip about the project, and then take another couple of minutes to explain what we are giving you in detail in testimony.

Senator JOHNSTON. That is fine.

[CLERK'S NOTE.—At this point, a film was shown.]

Mr. STENHOLM. The dust storm was significant, Mr. Chairman, because last Friday, the first day of spring, we were due to have the first commercial electricity produced from solar energy, from solar steam. Everything was beautiful; it is just that we didn't have any sun on Friday so we had to wait until yesterday to get it done, but the project produced yesterday the first commercial solar-produced electricity from solar steam. We had the first kilowatt produced and the first check by an individual consumer who paid for that electricity generated from this project in a small way.

I would like to just make two or three additional comments in the remaining time. Certainly I, I guess of all people, recognize the importance of budget restraint and recognizing the limitations on the Federal budget this year certainly, and certainly in our request the $33 million—$15 million in fiscal 1982 and $18 million in fiscal 1983—the spirit under which we the people of Crosbyton are asking for consideration is that this project has worked. It has exceeded all of the expectations compared with all other projects anywhere in the United States, certainly in technology and development, this one has met the specifications.

There are a lot of people that believe in it and, most certainly, you understand the people of Crosbyton, Tex., believe in it. But from the standpoint of the technology and the validity of the project, we believe that it will have to stand on its own merits, and that is the spirit under which we are here today.

PROJECT COSTS

Senator JOHNSTON. How big is this demonstration project?

Mr. STENHOLM. I will defer to John Reichart.

Mr. REICHERT. Sir, the 10-kilowatt turbine we were able to add——

Senator JOHNSTON. What did that cost, $6 million?

Mr. REICHERT. No, sir. Total spent on the project to date was $5 million, but most of that was in R. & D. The turbine was given to us.

Senator JOHNSTON. And what is the $33 million for?

Mr. REICHERT. The $33 million is to construct a 5-megawatt plant using fossil fuel and solar. The first $15 million would buy two of the giant 200-foot bowls that are required, plus the fossil fuel plant. The following $18 million would add the remaining eight bowls in the balance of the plants. So, one-fifth of the annual electricity would come from the Sun.

LOCAL COST SHARING

Senator JOHNSTON. Would the city be putting up any money?

Mr. REICHERT. The city would contribute the land. But there is no offer of significant matching from the city or from anyone else in that region. The idea is, there will be no local benefit from this plant once it is built, because it will sell its electricity at the current going rates throughout that area.

Should it generate a profit—and it should because it will consume only four-fifths of the fuel that a fossil plant will consume—it should, therefore, generate a profit.

We will return that profit to the Federal Government as it accrues.

NEED FOR FURTHER DEVELOPMENT WORK

Senator JOHNSTON. Why is this R. & D.? It is a fairly simple concept, building mirrors. Why, now that we have built a working model, do you have to have further R. & D.?

Mr. REICHERT. We are not particularly calling it R. & D. We spent 7 years, and 5 years under funding, for what we considered to be the basic research and development for this. We think that we have looked at that horseshoe about as many ways as you can and built a very large system. Now, what we are trying to set forth is a commercially viable option to the American people. We want to build this plant. There is some work that is required. We have never run 10 boilers at the same time. We have never established a control system that actually operates the fossil boiler and the solar boiler at the same time. We haven't ever demonstrated it so people can see the economics.

If we can build this plant, we think the Federal Government should build one and only one, and future improvements should come from private capital. If they wish to improve it, let them do it the traditional way.

Senator JOHNSTON. Do your projections show that you can be competitive with fossil-generated power?

Mr. REICHERT. Yes. We can't sell the electricity cheaper than a similarly situated fossil fuel plant, but we can reduce the fuel consumption. We can at least make it not a disadvantage for someone to live under one of these viable plants, but we cannot return the cost of electricity to prices of former years.

Senator JOHNSTON. Do you think you can, putting this plant along side another kind of coal generated or whatever the choice of fuel, that you can compete with them?

Mr. REICHERT. Yes, sir. Of course, I don't know all the types of plants that may be built in the next few years, but the way the economics works is by saying about a fifth of the fossil fuel cost that gives quite a bit of money to use to amortize the investment and the capitalization in our schedule to be met by that under these scenarios.

Senator JOHNSTON. Well, I tell you this is a very interesting looking piece of technology. Frankly, it looks much more promising to me than the Barstow project proposal of mirrors that are all supposed to keep moving in unison; the heliostats. And this project is considerably cheaper; as I recall, Barstow was about $119 million, so this is considerably cheaper than that. So it is a very positive-looking effort and is endorsed by Good Morning America. And so Charlie Stenholm and I will talk to our friend Dave Stockman and see if he has a few extra dollars stashed away that needs spending.

Thank you very much, gentlemen. You say this is dumb and simple?

Mr. REICHERT. Big, dumb, and simple.

Mr. STENHOLM. Let me make one additional comment. Certainly you hit the nail right on the head, Mr. Chairman, as far as when you look at all the existing technology available to us. This one quite obviously, being in my district, is in my interest more than if it had not been in my district. We are asking DOE—and we will be happy to join with you in asking David Stockman—to take a look at this project. If you believe in solar energy, if you believe we have a future in solar energy, it seems a small investment at this time on those that make sense and will be in the best interests of our country, and that is the spirit in which we are here.

We appreciate the time and I would ask that the statement of Dr. Reichert be inserted in the record in its entirety for your further study and for the full study of this committee.

PREPARED STATEMENT

Senator JOHNSTON. That will be put in the record.

Thank you very much, gentlemen.

[The statement follows:]

STATEMENT OF DR. JOHN D. REICHERT, PROJECT DIRECTOR, CROSBYTON SOLAR POWER PROJECT

Mr. Chairman, I appreciate this opportunity to appear before the subcommittee today, and I hope to convey to you the progress we have made on the Crosbyton Solar Power Project (CSPP) to date, and where we are going.

For seven years now, since the spring of 1974, the citizens of Crosbyton, Texas, along with Texas Tech University and industrial firms such as E-Systems of Garland, Texas have planned and worked to produce a $5MW_e$ solar-fossil fuel hybrid electric power plant at Crosbyton. This plant we design can be operated at capacity factor one to produce 5MWe-years per year. The plant will be operated at full capacity under a tunable load arrangement to provide the entire Crosbyton city demand plus a rural/agricultural load through a local rural electric co-op.

With the first federal funding, by the ERDA (USDOE), having been provided in September, 1976, five (fiscal) years ago, the CSPP is now the oldest continuously funded single mission project in the USDOE solar program. Funding for the CSPP project/concept has never been automatic, regular, or simple. Many tests and milestones have been set before the CSPP and have been successfully hurdled, even though the total funding provided to CSPP to date has only been $5.3 million. [For comparison, more than 60 times as much (about $1/3 billion) has been invested in the "more glamorous" tower-heliostat concept. I suggest that the cost effectiveness of our solar gridiron concept is perhaps reflected in the relative cost-effectiveness of the research and development efforts!]

Let me review just a minute, Mr. Chairman, the list of "milestones which have been reached and which will be accomplished later this month:

1. Construction and successful operation (from the first try, continuously to the present date) of the largest single solar collector ever built.

2. First and only design verification system ever completed in the USDOE high-temperature solar thermal program.

3. Only system level experience (13 months to date at 1000°F, 1000 psi) in the USDOE program with a high-temperature solar thermal concept.

4. Only USDOE solar thermal power system ever to achieve its maximum theoretical performance and to be able to account (even in advance of construction) completely for all power and all power losses.

5. Production of more high-quality solar steam (over a billion Btu's) than anyone else in history.

6. On March 20, 1981 — first commercial electricity in the history of the nation to be produced from solar steam.

7. COSTS — actual receipts for the cost of construction of the world's largest solar collector, making CSPP unique in establishing the basis for its cost projections. [No robots nor other "future technology" gimmicks are presumed to be available for the work!]

For these accomplishments, Mr. Chairman, we deserve our reputation for hard-headed engineering and for dedication and determination. We are convinced that there is a viable solar-electric option for the American nation and that we are demonstrating this fact. The people of Crosbyton, Texas and the people of our nation deserve to see the next phase of the work on this promising technology pursued with the greatest possible vigor. It is time to build! After seven years of efforts, the research and development of this relatively simple technology has been accomplished! We know what we should build, what the performance of the system should be, what the cost should be, and why the system should be built.

Even though we are in extremely tough times for making such decisions, Mr. Chairman, we cannot afford to ignore or destroy this option. It is extremely important to provide an economically viable solar option to the utilities of this country. In order to provide Americans even the option of pursuing the Solar Gridiron (or Hemispherical Bowl) Concept, one complete system must be built to prove out the integration and operation of this hybrid plant. We must view this system in its entire economic context (i.e., fuel bills, operation and maintenance costs) as well as in its entire technical context (i.e., to develop the necessary controls for the plant's efficient hybrid operation so that the solar and fossil components are working together in a mutually supportive fashion.) Only by exhibiting an actual, complete operating plant can we expect private capital to be invested in similar plants.

While we certainly agree with reducing the size of the budget in order to get a handle on inflation, we cannot forget the effects that rising energy costs have on inflation. Further, we agree with the role of private business in the energy field, but what we propose, Mr. Chairman, is not a profit-making venture but one which is only a break-even proposition if conventional debt financing were involved. We must build all ten (10) bowls in the hybrid fossil plant in order to determine and exhibit how the entire system will operate from a business point of view. Since there would be no investors in this venture outside the federal government, there will be no amortization schedule to follow and thus no interest to be paid. Therefore, arrangements have been made so that, should the operation of this plant make a profit, as expected, it is our intention to return this profit to the federal government. All of the electricity produced from this plant will be sold at the current prevailing rates, thus providing, as mentioned before, the (1) total load of the city of Crosbyton and (2) the excess up to 5 MW_e into the rural electric co-op rural/agricultural load.

Considering that, on an annual basis, 20 percent of the electricity will come from the sun and that 80 percent will come from the fossil portion of the plant, the cost of the fuel will be 20 percent less than other similarly situated fossil power plants! It is, therefore, not unrealistic to expect this plant to generate a sizable profit over the period of a 30-year plant lifetime.

Further, CSPP is deserving of the Congress' consideration for a specific line item under the construction category from whatever perspective one wishes to approach the potential for contribution to the nation's energy future.

(a) From the perspective of the previous USDOE approach to solar-electric technology, the CSPP and the solar gridiron concept have certainly earned their place in the sun. Regardless of previous or preconceived judgments and priorities, the list of accomplishments given above carries weight. Other concept which might compete with us must now compete with us[The only acceptable criterion for choice is cost effectiveness, not glamour or size of previous investment by USDOE. [Incidentally, we believe that our system is beautiful! If a potential competitor completes a system, then we will be happy to receive comments comparing the aesthetics of as-built systems. The bottom line, however, will always be engineering effectiveness, including cost effectiveness!] Our "secret" for cost-effectiveness derives from the fact that ours is the only known high-temperature solar concept that does not require the mirror surface to move.

(b) On the other hand, if one prefers a perspective more oriented toward the energy-based supply economy, then CSPP can stand on its own merits, without appealing to relative comparisons. The CSPP has actual receipts from construction of the 65-foot bowl at Crosbyton. From this data, we know that it is a viable option which the Congress owes to the American people, as their corporate board of directors, to approve. From this perspective, Texas Tech University is in a sound position, since we have the necessary performance, prediction and modeling data, plus we are in the best position for conducting the actual measurements of performance of the future hybrid system.

Mr. Chairman, before presenting our specific request, I would add that this is not a local benefit, but a national benefit. Conservation is a primary national energy priority and, as stated previously, this proposed hybrid solar plant contributes to this national goal since it consumes fossil fuel at a reduced pace, thus allowing diversion and, more importantly, conservation of our finite petroleum supplies. Yes, this project will affect the national economy, especially if CSPP can act as a catalyst to the many Crosbytons across America — especially the Southwest — for such undertakings at their own expense.

Request for Line Item Funding

Mr. Chairman, at the appropriate time of markup, I would urge you to consider the following as a construction line item:

FY 1982 - $15 million for Texas Tech to construct the fossil fuel portion of the plant and two 200-foot bowls at Crosbyton.

FY 1983 - $18 million for Texas Tech to construct the eight (8) remaining 200-foot bowls at Crosbyton.

Total - $33 million

This will then give the equivalent of one-half (1/2) MW_e per bowl, for a total of 5 MW_e for the total plant. By the way, Mr. Chairman, "off-the-shelf" existing technology is emphasized for this plant, with a near standard 5MWe fossil fuel plant, hybridized for the necessary and sophisticated integration into the solar system. [One might note the cost of this plant is about one- fifth the cost of the Barstow plant and that, although it is designed to have only one-half the peak solar capability, it will produce far more electricity each year, because it will operate at capacity factor one.]

In conclusion, Mr. Chairman, I would like to point out that on March 20th, we commemorated with ceremonies the first time that electricity had been produced from solar steam and sold into a commercial power system. While the quantity produced was only 10,000 watts, we demonstrated our determination to provide a solar option to this nation.

Additionally, CSPP was a special feature during the American Energy Week on ABC's Good Morning America program on March 18, 1981. CSPP was also featured on CBS Evening News with Dan Rather last Friday, March 20, 1981.

Attached to our statement is the "Crosbyton Solar Catechism" which will provide further illumination to the committee.

I urge your committee to join us in providing America this immediately available Solar Electric Power option. This is your chance and ours to build a new electrical option for the American people.

CROSBYTON SOLAR CATECHISM

PRIMARY DATA

The Crosbyton Solar Power Project (CSPP) was organized by Texas Tech University, Lubbock, Texas and presented to the federal government in 1975 as a sole source, unsolicited program.

FUNDING AGENCY: ERDA/USDOE, $5.3 million to date (March 15, 1981)
$6.0 million by end of FY 81.

SUBCONTRACTORS TO TEXAS TECH: E-Systems of Garland, Texas
Foster Wheeler Energy Applications, Inc. of Livingston, New Jersey
Glitsch, Inc. of Dallas, Texas

ASSOCIATED AND LOWER TIER CONTRACTORS: H. C. Lewis Construction Co. of Lubbock, Texas
Terry Turbine Co. of Houston, Texas

CONCEPT CATEGORY: Solar-Thermal, Electrical Power, Fossil Hybrid Plant

CONCEPT: Fixed Mirror, Spherical Segment Bowl

CONCEPT NAMES: Solar Gridiron, Solar Bowl, Hemispherical Bowl, Fixed Mirror Distributed Focus (FMDF)

PROJECT MISSION: To build a 5 MW_e Solar-Fossil Fuel Hybrid Electric Power Plant

MISSION PURPOSE: Exhibit an actual, complete operating plant so that private captial will be invested in similar plants; to prove out the integration and operation of such plants

PLANT SITE: Crosbyton, Texas on U.S. Highway 82, about 38 miles east of Lubbock, Texas

EXPECTED COST TO BUILD THE PLANT: $15M (FY 82) + $18M (FY 83) = $33M*

PROJECT ACHIEVEMENTS:
- Oldest continuously funded single mission project in DOE Solar Program
- Constructed largest single solar collector ever built
- Only design verification system ever completed in the USDOE high temperature solar program
- Only system level experience (13 months at 1000 F) with a high temperature solar concept in the USDOE program
- Production of more high quality solar steam (over a billion Btu's) than anyone else in history
- (On March 20, 1981) to produce first commerical electricity in history of nation from solar steam
- Performance - only solar power system ever to achieve its maximum theoretical performance and to account (even in advance of construction) completely for all power and power losses
- Costs - actual receipts for cost of construction of world's largest solar collector and corresponding cost projections for full scale system

PROJECT STATUS: Phase I, as planned in 1974 for research and concept development, to be completed in FY 81. Ready for Phase II - Construction of power plant during FY 82.

CROSBYTON SOLAR POWER PROJECT
March 19, 1981

COST BREAKDOWN:

The indicated cost to build the plant shown above:

$15 M (FY 82) + $18 M (FY 83) = $33 M,

is composed as follows.

Average cost per gridiron (first ones will be more expensive) = $2.5 M each.

Total cost of ten gridirons . . . . $25 M

Cost of fossil fuel side of plant (including about $1.5 M of solar interface costs) . . . . $ 8 M

Total Cost (in 1981 dollars) $33 M

Cost Plan:

1. Backbone plant (FY 82)

Fossil fuel side of plant . . . . $ 8 M

First two gridirons (@ $3.5 M ea.). . $ 7 M

$15 M

2. Completion of plant (FY 83)

Remaining eight gridirons (@ $2.25 M ea.) . . . . $18 M

$33 M

NOTE: The estimated cost in Item 2 above does not allow for inflation. Should inflation continue, contingency must be made for this effect in the FY 83 funding.

1. HAS THE CSPP ACTUALLY BECOME A REGLIGION?

No, and the proponents are not fanatics, but this is a fair question. Indeed, the engineers of Texas Tech, the people of Crosbyton, Texas, and personnel from industrial firms have exhibited strong commitment and dedication, and there is a definite sense of moral duty to the concept, the mission, and the American people. Throughout history there have been solar religions featuring Ra, Helios, Apollo, Osiris, and so forth. The present proponents, however, are far less concerned with solar power than they are with future electric options for America. These are citizens deeply concerned about the future of electric power, and these people do believe that they are right in their approach and their mission. Perhaps these people are best described as trying to be Men. [Ref: Rudyard Kipling's IF, attached as an appendix to this catechism.] These people have also received some powerful indications, in the past year, that they are on the right track. There is a powerful momentum here!

2. WHAT, HOW, WHY, WHEN, WHERE DOES THE CSPP INTEND?

2a. WHAT?

The CSPP intends to build and exhibit an actual, complete solar-fossil fuel hybrid electric power plant. The designated plant capacity is 5 MWe, considered by CSPP to be the smallest size for a "real power plant". A larger plant would simply cost more without yielding additional purposeful benefit. A smaller plant would be somewhat a toy which would not properly utilize existing "off-the-shelf hardware" and would not exhibit realistic component efficiencies. The plant must be a hybrid with fossil fuel in order to provide the usual American standards of reliability in a cost effective fashion.

2b. HOW (DESIGN)?

The CSPP employs the only known high temperature solar concept which does note require moving mirror surfaces. The Solar Gridiron, therefore, offers strong cost advantages over any other known concept. The CSPP has determined the most cost effective single bowl size to be about 200-feet in aperture diameter, capbable of enough steam for efficient production of 0.5 MWe, peak. The most cost effective overall 5 MWe plant would, therefore, require 10 such gridirons. The fossil fuel portion of the plant will cost about 23% (about $1.5 million) more than a conventional fossil plant in order to accomplish an effective hybridization with the solar components, even though heavy emphasis has been placed on the use of conventional hardware. This is not a conventional fossil plant, even though most components will be conventional hardware.

2c. HOW (IMPLEMENTATION)?

The CSPP would proceed in much the same fashion that it used previously in constructing the 65-foot aperture diameter ADVS (Analog Design Verification System), the largest single solar collector ever built, a "dress rehearsal". Texas Tech will serve as prime contractor with the federal government and be responsible for overall design, synthesis, subcontractor selection, and cost and quality control. The land for the plant site would be provided (as it was for the ADVS) by the City of Crosbyton from the same tract used for the ADVS. The near proximity of the existing ADVS offers strong technical advantages: comparisons, checks, and tests.

2d. WHY?

This plant will exhibit production of electricity with a considerable reduction in the amount of fossil fuel previously required. This plant would operate almost entirely on solar steam under peak solar conditions and almost entirely on fossil fuel at night. [A small amount of thermal storage is included, but only as a buffer to allow full use of all solar boiler output, even output which is not of turbine quality.] If this plant is operated at capacity factor one (i.e., at 5MWe, 24 hours a day, every day), then it would produce 5MW-years (i.e., 43.8 million kWhrs) of electricity each year. Of this amount, 4 MW-years (80%) would result from fossil fuel and 1 MW-year (20%) would result from solar power. Thus there would be a 20% reduction in fossil fuel consumption. Of course, if, for some reason, the plant were not operated at night, then there would be a 40% reduction in required fossil fuel, but only half as much electricity would be generated.

This plant is balanced (20%, 80%) to illustrate cost effective use of solar power. According to the levelized busbar cost scenarios used by CSPP, a larger proportion of solar power would be less cost-effective and make the retail cost of electricity higher (for the 30 year lifetime at Crosbyton, Texas). More bowls would require extensive thermal storage and, thus, introduce two sources of increased capital cost. The whole intention of CSPP for this plant is to exhibit a cost effective application of solar power in a realistic economic context.

It is extremely important to build this system so that it may be observed in its entire economic context (fuel bills, operation costs, maintenance costs, lifetime, . . .) and in its entire technical context (development of necessary controls for the plant's efficient hybrid operation, survivability of components, needed technical improvements, . . .). In addition, in a production oriented economy, it is necessary to produce. This plant will produce!

2e. WHEN?

As soon as possible. By the end of FY 81, the CSPP will be finished with Phase I. The CSPP will be totally prepared with 1) what it wants to build (design), 2) what the plant will do (performance), 3) how the implementation will be accomplished (cost), and 4) justification (economics). Although certain design options are yet to be selected, this information is basically available now! It is essential to initiate long lead time procurement early in FY 82, so that the backbone plant can be completed early in calendar year 1983.

In order to reduce the size of the FY 82 request for funding, the plant has been divided into two construction efforts: the backbone plant and the completed plant. The backbone plant (FY 82, $15 million) includes the entire fossil fuel portion of the plant along with two of the 200-ft. power gridirons. The plant would then be completed (FY 83, $18 million) by the addition of the remaining eight gridirons. The total cost is $33 millions.

2f. WHERE?

The CSPP intends to build this power plant on the same piece of property, provided by the City of Crosbyton, Texas, previously used for the ADVS. Two benefits are immediately obvious. Valuable land is provided by Crosbyton at no cost to the program, and advantage will be taken of the proximity of the ADVS. The engineering aspects of the ADVS are well understood, and it will serve as a comparison and test tool of great value. Although the CSPP is certain that the concept and plant have application at many other sites, it would be unfair to the history of the CSPP effort not to build the Crosbyton Plant at Crosbyton, Texas. The Crosbyton site is fully representative of the conditions to be encountered elsewhere: sun, clouds, winds, dust, rain, snow, hail, . . .

3. WHAT WOULD BE THE ELECTRIC DEMAND LOAD ON THE CROSBYTON PLANT?

This plant has a tunable load! It is intended that this plant supply the entire demand of the City of Crosbyton at all times. Since the peak city demand over the past several years was 3.6 MWe, the city demand will not saturate the plant's 5 MWe capacity. Even should the city demand grow during the plant lifetime, there is adequate margin. Meanwhile, generation beyond the city demand can be applied to the rural/agricultural load of the region through the rural electric co-ops in the area. Thus, the plant can be fully applied, up to capacity factor one, through agreements with rural electric co-ops (REC's). [The basic reason for selection of the 5MWe size of the plant was given in question 2a. above.]

4. WHAT WOULD THE CROSBYTON PLANT CHARGE FOR ITS ELECTRICITY?

The CSPP intends and recommends that electricity from the Crosbyton Plant be artificially set to always be at the current prevailing rate in the Crosbyton region. Under these conditions, the plant should make a profit because it incurs only 80% of the fuel cost of a similarly situated fossil plant and because it has no amortization schedule for invested capital. Because this plant would be capitalized by the federal government, it should be operated for the best purposes of the nation, not for local gain. The best purpose would be to exhibit a plant operating in an accurate and complete economic context! In the opinion of the CSPP, any profit from the Crosbyton plant should be returned to the federal government - in any fashion determined by the Congress. With a 20% fossil fuel saving, it is not unrealistic to expect this plant to generate a sizable profit over the period of a 30 year plant lifetime. Thus a substantial portion of the federal investment could be repaid. Should it result that the return exceeds the federal investment, then the federal government should consider a redistribution of the proceeds. As Project Producer, Texas Tech advises the Congress that it would be equitable to also consider some reimbursement, from plant proceeds, to the City of Crosbyton for the land [Ref: Q2a].

5. HOW DOES THE PROPOSED RETURN OF PROCEEDS MECHANISM DIFFER FROM A FEDERAL LOAN?

There is a major difference! Use of borrowed funds is equivalent to use of local funds, because borrowed money must be repaid. Default in any form, guaranteed or otherwise, affects one's reputationand self-image. The Crosbyton area electric consumers neither ask for nor offer unearned benefits. This plant is in the national interest and its benefit is national in scope. Reduction in local electric rates (contrary to the recommendation in Q4) would be an unrequested, unnecessary, and improper local benefit. Similarly, risk of private or local capital on a first-of-its-kind plant would be outside the American tradition of risk/profit-expectation investment. Because solar electric plants should be balanced (Ref: Q2d) for optimum displacement of fossil fuel requirements (a national benefit) future plants will be near break-even propositions for the private and commercial investor. Solar power is costly enough that solar electric plants can not be represented as profit making ventures!

6. SHOULD MATCHING FUNDS BE OFFERED FOR THE CROSBYTON PLANT?

No, there is no useful purpose, no reason. There is no local benefit (Ref: Q4)! The CSPP has no intention of trying to "trick" funding out of the federal government with gimmicks of any kind. A national benefit is offered along with intended service to the American people. It is the responsibility of the Congress, as the corporate board of directors for the nation, to accept or reject the solar-electric option on it own merits. Simply stated, the CSPP offers its concepts, it dreams, its talents and skills, its reputation, its determination, its cost effectiveness; it does not offer substantial matching or cost-sharing. It might be mentioned that the land is offered (Q's 2a and 5) and that West Texas people already cost-share undertakings in the national interest through their federal taxes. [Of course, it is widely known that the CSPP is strongly committed to its mission. Perhaps it could be induced to seek matching funds, if it has no other way to perform its service to the American people. The present position taken by CSPP is that such gimmicks should be unnecessary!]

7. HOW WOULD THE CROSBYTON PLANT BE MANAGED AND OPERATED?

With primary emphasis on realism and economic context. Neither Texas Tech nor, presumably, the federal government wishes to enter into direct commerical sale of electricity. The CSPP intends to establish a private entity to manage and operate the power plant. [For reasons to be explained below, the CSPP prefers for the plant to be operated by an existing electric co-op already serving the area.] Under the proposed "return of proceeds mechanism" (Ref: Q4 and 5) the private entity would not purchase the plant. Rather, the Crosbyton plant would be assigned to that entity for its use subject to various restrictions and constraints; such as:

- To the extent practicable, the plant must be operated in the fashion for which it was designed and intended;
- The plant components must not be inappropriately dismantled and salvaged;
- The plant must be maintained at a level of serviceability and efficiency consistent with the intention to exhibit this solar-electric option to potential investors in similar plants;
- Appropriate spare parts will be maintained and repairs and replacements made in a suitable fashion;
- The plant will be obligated to give first priority to provide the electric demand for the City of Crosbyton, but only to the extent deemed desirable by the people of Crosbyton;
- The electric rate structure would be specified by agreement with the federal government and its agents.

The private entity receiving the plant should understand that it will be allowed little or no profit. This is appropriate, because it has risked no capital. Proceeds from the plant would be used for:

- maintaining the plant and an appropriate supply of spare parts,
- repairs and necessary modifications,
- improvements as permitted or directed by the federal government,
- operation of the plant and appropriate operator and managerial personnel,
- necessary costs involved in exhibit, demonstration, or analysis of the plant for the benefit of potential investors in similar plants, and
- return of proceeds to the federal government.

The CSPP recommends that an existing REC (rural electric cooperative), already serving the area, be selected to receive the Crosbyton Plant. This would offer two advantages:

1. An existing electric network would be available for transmission and distribution and an existing management structure would be available; and

2. There is a tremendous potential market for systems like the Crosbyton Plant in the existing association of REC's.

Other REC's would find it particularly easy to discover and assess the economic value of such systems for their own purposes. The CSPP hope here is that REC's will sell REC's on the idea to the extent that, should it be justified, a rapid deployment of solar-electric plants can take place with a corresponding rapid impact on national economics.

8. HOW MANY OF THESE PLANTS MUST THE FEDERAL GOVERNMENT FUND?

Only one! It is essential to exhibit one actual, complete operating plant in order to offer private and commercial investors the opportunity to evaluate the concept. For the federal government to build more than one would be inefficient and unnecessary. Advanced concepts or improvements might be developed in various laboratories at the discretion of the government, but the CSPP position is that if a subsequent (private or commercial) plant builder wishes to try to improve on the plant concept, he should do so at his own risk. Should his venture be successful, he is entitled to his legitimate profits. The point is that the Crosbyton Plant should already exhibit good engineering. Let the sophistication of higher technology arise, if it does, only by the traditional profit incentive!

9. WILL FEDERAL FUNDING FOR THE CROSBYTON PLANT BE INFLATIONARY?

Not in a deep sense; it is an investment in the nation's future. Personnel of the CSPP believe that, among the sources of inflation, one of the driving terms is fuel cost escalation. It would, therefore, appear to be very ironic if such an effort to curb fuel consumption were interpreted not as a response to, but as a cause of inflation. Such irony is not amusing to those that are deeply concerned about the nation's energy and electric future!

10. WHAT WILL HAPPEN TO THE EXISTING CROSBYTON ELECTRIC PLANT?

It will be de-commissioned and salvaged. Its function will be totally replaced by the new Crosbyton Plant. Existing fuel contracts will be transferred to the new plant. A diesel plant does not make a suitable hybrid with a solar concept. [Retrofits (repowering) are possible, but are the wrong way to exhibit cost-effective engineering of solar-electric options.] Proceeds from the salvage of the diesel plart will be applied to reduce Crosbyton's indebtedness on its existing plant. Any remaining indebtedness should be retired through an artificially adjusted wholesale/retail electric arrangement (Ref: Q4). The present city-owned distribution network can be retained and serviced by the city as in the past or transferred to the new plant. Either way, the cost of maintaining the distribution network must be met from the sale of electricity generated by the new plant. Because the City of Crosbyton has no reasonable way to retire its remaining indebtedness on its present facility except through sale of electricity, it would be appropriate to set a wholesale price to the city which would allow the individual customers to pay retail rates current in the area while allowing the city to retire its debt.

11. HOW WOULD OTHER PLANTS BE FINANCED?

Subsequent plants should be financed by private and commercial investors. The first plant is unusually expensive and generates a "profit" only because the federal government provides the capitalization and no amortization schedule is imposed. Subsequent plants would have to apply the monthly fuel cost savings over the lifteime of the plant to an amortization of the capital investment. Although economic projections are somewhat scenario dependant (the fuel cost escalation for the next thirty years being rather uncertain), the CSPP determinations are that future plants can operate in a break-even fashion: trading monthly fuel cost savings for amortization payments. It can not be assumed that there is a strong local benefit to either the investor or the consumer. The solar option does not appear to be good enough (in regions secure in their fuel supplies for the next thirty years) to provide strong local incentive for investment. As stated before, the benefits are primarily to national economics.

12. WOULD SOLAR-ELECTRIC PLANTS SELL THEMSELVES?

Probably not. At best they would offer no particular disadvantage to the local investor. Deployment of these plants would depend, therefore, on salesmanship. Because the true beneficiary of the use of such plants is the nation as a whole, it would be the business of the federal government to have such plants deployed. The government could require use of such plants or might encourage such deployment through tax restraint or other incentives. Such decision is the business of the federal government, not the CSPP. Simiarly, it is the business of the federal government to decide how to take advantage of or to realize the national economic benefit. Obvious choices would be to reduce American purchase of energy from foreign producers or to divert displaced fuel to some other region of the nation or some national need such as military requirements. It is the business of the Congress, as the nation's corporate board of directors, to judge the value of these options to the nation and to act according to its judgement. It is the business of the CSPP to provide the options to the nation.

STATEMENT OF GAIL GRAHAM, CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

ACCOMPANIED BY

DOW DAMRON, EXECUTIVE VICE PRESIDENT, ARKANSAS BASIN DEVELOPMENT ASSOCIATION
ROBERT LA FORTUNE

Senator JOHNSTON. The Arkansas River group must catch a plane, so if they will come forward. I think Gail Graham is the Arkansas spokesman.

Mr. Graham, glad to have you. Pleased to see you.

Mr. GRAHAM. Mr. Chairman, I will be joined here by Mr. Dow Damron, who is the organization's executive director, and Mr. Robert LaFortune of Tulsa.

Mr. Chairman, I am Gail Graham from Joplin, Mo. It is my pleasure to appear here today as chairman of the Arkansas River Basin Interstate Committee.

This committee represents the five great States of Arkansas, Colorado, Kansas, Missouri, and Oklahoma, and its members have been appointed by our respective Governors to present a consensus of the water resource funding needs of these States in the Arkansas River basin.

In the interest of time, I will not introduce the committee members and other citizens who have accompanied us here today. They are listed in our written statement, but I would ask that you allow them to stand and be recognized. Many of them have been here before and they represent a dedicated group of people from the five-State area who have worked over the years to improve the Arkansas basin area through development of its water resources.

[Group standing.]

All of us sincerely appreciate the opportunity to again appear before this distinguished committee and express our views concerning funding of our water resource projects and studies. My testimony will be brief and we have incorporated additional material in the written statement which we have submitted.

The committee is aware of the inflationary pressure driving up costs of water projects and we support the administration's efforts to reduce spending and work for a balanced budget. We cannot afford to be shortsighted. As we all know, it is our responsibility as citizens of this great Nation to protect and control our most precious natural resource—water.

We believe that the Congress has adequately demonstrated its ability to make wise decisions concerning the Nation's annual investment in water resource programs and must retain this decisionmaking responsibility.

Senator JOHNSTON. I understand you are preaching and I have been saved now. I believe in water resource development.

Mr. GRAHAM. We sincerely doubt that full funding of a few projects will deliver any better progress or results. In fact, it may serve to deny funding to a number of other projects where a minimal amount may be vitally needed to prevent significant delay. The full-funding concept obviously gives a distorted impression of the annual investment that is being made in water resource projects. It certainly won't stop inflation.

REQUEST FOR 1982 BUDGET

We have a number of projects in the Arkansas basin where relatively minor additions would permit the Federal water resource agencies to accomplish essential tasks during fiscal year 1982, rather than waste the entire year for lack of funding.

We have watched the number of active projects and studies in the Arkansas basin shrink significantly over the past few years. This is partly due to the completion of projects. But an even greater toll is being taken by the policies and criteria which have been established for conducting studies and planning and evaluating projects.

Though the Congress has consistently provided funds for general investigations and planning, the results have often been to put another study or needed project on the shelf after the funds are spent.

If we are to meet the future needs of the American people for water, we must have a water resource policy and construction program that is constant. Studies must produce solutions to problems, and planning and construction must be turned toward executing those solutions.

The restricted capabilities of the Federal water resource agencies are to us prime evidence that the needs of the future are not being adequately addressed today.

Within these restrictions we have analyzed the needs of our area and set forth our request for funding in our appropriation request summary.

In addition, each State chairman has provided a statement which highlights the needs of his State. We ask that you consider our committee's requests.

We are asking for a small increase for two studies: Arkansas River, Great Bend, Kans., to John Martin Dam, Colo., and Poteau River, Okla. and Ark.

Our requests for extra planning money are even less—a small amount to initiate planning for Douglass Lake, Kans., and Sand Lake, Okla. Local supporting statements are attached.

The interstate committee also urges the Congress to appropriate the full Corps of Engineers capabilities in the maintenance and operations area, including navigation.

Justification for spending levels and for those increases that exceed the President's budget is contained in that material that has been submitted by the Corps of Engineers.

In the opinion of this committee, one excellent feature of a capital projects spending request in this time of high inflation is that it mandates some consideration of accomplishing the projects in a timely manner to avoid excessive costs.

On behalf of the interstate committee, I thank you for the opportunity to appear here today and for your consideration of our requests. We ask that this committee, as well as the Congress as a whole, continue to provide the leadership it has in the past in determining whether or not our water resource programs are adequate.

There are many problems that are not being addressed and many solutions that are still being sought.

The future will deal harshly with us if we do not have an adequate national water policy and programs.

Mr. La Fortune, do you have any comments you would like to add?

Mr. La Fortune. Senator, I would only add the testimony you just heard from Gale Graham represents the interstate committee that, in turn, is composed of representatives from five States in the Arkansas basin. And the testimony is given in this way to help give you more of a consensus of the States that are involved in a certain watershed area.

The States of Colorado, Kansas, Arkansas, Oklahoma, and Missouri are those that are contained in this testimony. We think it simplifies for your examination the review of these projects and, in turn, our association, Arkansas Basin Development Association representatives from all of these five States and we try and bring more of a concerted opinion from the grass roots of these projects.

Mr. Graham. We are talking about the Arkansas River and the changes to the Arkansas River.

Senator Johnston. Thank you very much, gentlemen.

[The statement follows:]

STATEMENT OF WALLACE A. GIERINGER, ARKANSAS CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of the Committee, my name is Wallace Gieringer. I serve as Executive Director for the Pine Bluff-Jefferson County Port Authority at Pine Bluff, Arkansas and was appointed by our former governor, David Pryor, to serve as a member of the Arkansas River Basin Interstate Committee. Other committee members representing Arkansas are: Wayne Bennett, Homer Hall and Charles Steel.

The Arkansas Committee recognizes and appreciates your concern for needed fiscal responsibility. Let us identify certain projects vital to the economic well-being of our area.

In view of the flood problem in Little Rock where eight people were killed in the September 1978 flood, we ask you to provide $500,000 for the continuation of planning on this needed urban flood control project.

With regard to attaining our energy independence goal we urge you to provide the full capability of $1,000,000 for the continuation of planning for the Murray Hydropower (L&D No. 7) project. In recognition of the need for the energy from this project, the Corps of Engineers responded by completing a report in a year's time that has been favorably received by all interests. We need to keep this project going and can with the appropriation of the Corps capability amount.

We also have hydropower studies underway for adding energy production facilities at the existing locks and dams on the Arkansas River. The energy that could be produced would be very useful in cutting imports of foreign oil. Accordingly, we urge you to approve the amount in the budget for the Arkansas River Hydropower studies.

Let us call your particular attention to Ozark-Jeta Taylor Lock and Dam. Full Corps capability is needed for the operation and maintenance of the Ozark Project. Of that amount $1,700,000 is to pay for needed repairs to the power plant which has experienced problems due to its unique new design. (These units are now inoperable due to cracks in the main turbine shafts which are 55 feet long and 53 inches in diameter. This size cannot be forged as one piece and must be constructed in four individual segments, then welded together. The cracks are in a welded joint.)

We support full funding for further construction for the McClellan-Kerr Waterway (Conway water supply). We urge complete funding of the budget request for the operation and maintenance of the locks and dams and for the entire McClellan-Kerr Waterway. This would include model studies to see if navigation conditions on the White River, which are controlled by the Mississippi River, can be improved. The continued safe operation of the waterway is most important to the people of Arkansas and Oklahoma.

Due to our location on the lower end of the Arkansas River, we have very few projects requiring substantial funding; however, the projects we do have are very important to the future growth of our state. We have important urban flood control studies at Little Rock (Fourche Bayou), Fort Smith-Van Buren, Clarksville, Russellville and Morrilton, and a navigation port study in the Little Rock-North Little Rock area that need funding up to the limit of Corps of Engineers capability. Any delay in completion of these studies will delay the future development of these urban centers and our state.

As chairman of the Arkansas State Delegation, I would like to add our endorsement and support to the Interstate statement for the entire Arkansas

River Basin. The orderly development of the entire Arkansas River Basin is most essential for the continued growth of our state's economy.

We join with our associates in Oklahoma, Kansas, Missouri and Colorado in commending your committee and Congress for having provided funds for the development of navigation, flood control and water resources in the past. The need for conservation and development of our water and land resources is even greater today. It is only through the action of this committee that this nation's needs can be provided.

Thank you for the privilege of presenting this statement to your committee.

STATEMENT OF HOUSTON ADAMS, OKLAHOMA CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

I am Houston Adams, a banker from Tulsa, Oklahoma and Oklahoma Chairman of the Arkansas River Basin Interstate Committee.

It is my privilege to present this statement on behalf of the Oklahoma members of the Committee in support of adequate funding for water resource projects in our area of the Arkansas Basin. Other members of the Committee appointed by our Governor, The Honorable George Nigh are:

Mr. E. R. Albert, Jr.
Mr. Robert S. Kerr, Jr.
Mr. Harold B. Scoggins
Mr. Fred G. Turner

We met in Tulsa on March 5, 1981, together with representatives of the other Arkansas Basin States, and we fully endorse the statement presented to you today by the Chairman of the Interstate Committee.

We also appreciate the opportunity to present our views of the special needs of our State concerning several studies and projects.

We were pleased when the President presented in his budget message for FY 1982 $21 million in funds for the continued construction for Arcadia Lake, Oklahoma.

One of our studies -- Poteau River, Oklahoma and Arkansas -- could be advanced by 3 months, if we could get an additional $100,000 in FY 82.

We also ask that $300,000 be appropriated to resume study of the Central Oklahoma project to convey water from Southeast Oklahoma to the Oklahoma City area.

Our other urgent need is for a planning start on Sand Lake, Oklahoma. The supporting statement from Bartlesville, Oklahoma sets forth the reasons that justify the appropriations to commence this project.

These requests, although relatively few in number, are vital to the economic vitality of Oklahoma. Additionally, they represent important assets in conservation, supply and recreation. Delays in funding will result in excessively high future cost, while deferring the availability of these projects to the people of the State.

We appreciate the opportunity to present our views to your distinguished Committee.

STATEMENT OF JAMES O. FOSTER, KANSAS CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of the Committee, my name is James O. Foster. I am Utilities Coordinator for the Boeing Military Airplane Co. and Chairman of The Governor's Interstate Committee for The Arkansas River Basin. I am pleased to submit this statement today on behalf of myself and the other members of the Kansas Delegation who were appointed to represent the State of Kansas by the Honorable John Carlin, Governor.

My colleagues are Mr. Arthur Woodman, Architect, Wichita; Mr. Frank Liebert, Attorney-at-Law, Coffeyville; Mr. Roger Brown, Bank Executive, Arkansas City; Mr. Taylor Peckham, Insurance Executive, Augusta, Kansas. We are honored to join with our colleagues from the great States of Arkansas, Colorado, Missouri, and Oklahoma, in appearing before you today to put forth our views on the appropriations and projects in Kansas and The Arkansas River Basin.

As part of this statement, you will find two appendixes which the Delegation wishes to discuss. Appendix No. 1 lists those projects in The Arkansas River Basin of Kansas which the President has provided full funding; and we commend him for his recommendations and urge that you concur with them.

Appendix No. 2 lists those projects in the State of Kansas for which additional funding is needed. In addition to the budget figure, we have listed our recommended capabilities to advance or to keep on schedule projects now underway. Many of these projects will save millions of dollars if completed by advancing the work. We recommend that you give every consideration to these advancements as inflation will drive the costs even higher.

In Appendix No. 2, there are two particular projects that we wish to call to your attention. One, the Douglass Lake Project was conceived and started as a water and flood control project. This Project is badly needed because the cities in the area need the Municipal and Industrial Water Supply. As Wichita, Augusta, Newton, Winfield and Arkansas City Continue their growth, water supply will become even more critical.

In recent years, the shortage of rainfall has damaged the present water supply and clearly shows the need for better Municipal and Industrial Water Supply. This Project is needed not only for water storage, we believe, but also because farmers in this area continue to be devastated by floods.

We sincerely hope that you will appropriate funds to the Douglass Lake Project so that planning can start in the foreseeable future.

Two, we believe the El Dorado Lake Project is vitally important not only to our area, but also to this entire region of the United States. This Project is also for Municipal and Industrial Water Supply and flood control. In past years flooding has extensively damaged the City of Augusta along with one of the Nation's largest Mobil refineries.

Mobil officials have been most patient in waiting for some type of relief by the building of the El Dorado Lake Project. However, after it was severely damaged by the 1979 flood, these officials indicated that operations may be discontinued at this location. The shutdown of this refinery would create economic disaster in the area of unemployment for the State of Kansas and a disaster to this entire region by the loss of the vast quantity of petroleum projects supplied by this Mobil refinery. In the past, the El Dorado Lake Project has been a major project of our area; and we believe that advance completion of this Project by eleven months for economic reasons is justified.

At a time when energy supplies are so critical to the State of Kansas and the entire mid-continent area of the United States, we cannot afford to lose our water supply any more than our energy supply source. We recommend that you appropriate funds for construction at the El Dorado Lake Project and that this Project be completed as quickly as possible.

Mr. Chairman and members of the Committee, we wish to thank you for the sincerely and dedicated manner in which you and your distinguished colleagues in the Congress of the United States have dealt with the Water Resources Programs in allowing us to present our views and recommendations to you. We look forward with great expectations and hope for the future of water resource development in Kansas; with your assistance, it can be achieved.

Appendix No. 1

US ARMY CORPS OF ENGINEERS

FISCAL YEAR 1982 CAPABILITIES* IN THE ARKANSAS BASIN

NAME OF SURVEY OR PROJECT IN KANSAS	CATEGORY **	BUDGET ($1,000)	CAPABILITY ($1,000)	PURPOSE OF ADDITIONAL CAPABILITY
Arkansas River & Tributaries, Great Bend, KS, to Tulsa, OK (FDP)	(S)	550	550	No additional requirement
Grand (Neosho) River, KS & OK (FDP)	(S)	400	400	No additional requirement
Verdigris River, KS & OK (FDP)	(S)	657	657	No additional requirement
Arkansas River, Great Bend, KS to Tulsa, OK, at Halstead, KS (FDP)	(SPE)	200	200	No additional requirement
Pearson-Skubitz Big Hill Lake, KS (FC)	(C)	2,913	2,913	Complete project
Marion, KS (FC)	(C)	-0-	-0-	Fully funded

Appendix No. 2

US ARMY CORPS OF ENGINEERS

FISCAL YEAR 1982 CAPABILITIES* IN THE ARKANSAS BASIN

NAME OF SURVEY OR PROJECT IN KANSAS	CATEGORY **	BUDGET ($1,000)	CAPABILITY ($1.000)	PURPOSE OF ADDITIONAL CAPABILITY
Arkansas River, Great Bend, KS, to John Martin Dam, C O (FDP)	(S)	450	600	Advance study completion 6 months
Verdigris River, KS & OK (FDP)	(SPE)	0	500	Continue studies
Douglass Lake, KS (FC)	(P)	0	100	Initial planning.
El Dorado Lake, KS (FC)	(C)	2,600	4,100	Advance completion of project by 11 months.

STATEMENT OF CHARLES L. THOMSON, CHAIRMAN, COLORADO SECTION, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman, and members of this distinguished Committee, my name is Charles L. Thomson, and I am General Manager of the Southeastern Colorado Water Conservancy District, with headquarters in Pueblo, Colorado. I am pleased to submit this Statement today in behalf of the other four members of the Colorado delegation, who were appointed to represent our State by the Honorable Richard D. Lamm, Governor. My four colleagues are: Mr. William McDonald, Director, Colorado Water Conservation Board; Mr. John E. Javernick, farmer and rancher from Canon City, representing the Upper Colorado Basin in Colorado; Mr. Lee Hancock, Superintendent, Highline Canal Company near Rocky Ford, and a farmer representing the Lower Basin; and Mr. Raymond D. Nixon, retired Executive Director, Department of Public Utilities for the City of Colorado Springs, who was appointed to represent the municipal and domestic water users in the Basin. We are honored to join our colleagues from the great States of Arkansas, Missouri, Oklahoma and Kansas in appearing before you today, and do appreciate your affording us this time to testify as a single group in support of appropriations for Water Resource Projects along the entire reach of the Arkansas River, from its headwaters at an elevation of nearly 14,000 feet near Leadville, Colorado, to its confluence with the mighty Mississippi in Arkansas.

The 25 members of the Interstate Committee worked very closely together to analyze necessary Water Projects in the five States, and, at an Annual Meeting held in March each year, in Tulsa, Oklahoma, agree to a Statement which our Chairman, Mr. Gale Graham of Joplin, Missouri, will present in behalf of the five States. We are of the opinion, Mr. Chairman and members of the Committee, that the Interstate Committee truly epitomizes the type of Interstate cooperation which is so essentially necessary to the orderly development of Water Resource Programs which will benefit not only the five States, but the entire Nation as well.

We, from Colorado, would strongly recommend the approval of the $21.204 million requested by the President for continued construction on the Fryingpan-Arkansas Project, which is a multipurpose Project being constructed by the Water and Power Resources Service. The funds so appropriated would permit continued construction on the Fountain Valley Pipeline, which provide essential water to the Colorado Springs area, and also continued work on the second stage of the Mt. Elbert Power Plant, which is a peaking plant involving pumped-back storage. The first 100 megawatt unit will go on line in July of this year, and the peaking power will be necessary to meet the ever growing demands in the area to be served. Other phases of the Project will be completed during the Fiscal Year in question.

We endorse the request by the President for $350,000 for continued Flood Control Studies on the Arkansas River above John Martin Dam in Colorado, and $3.5 million for Dam safety work at Trinidad Dam in Colorado. In addition, we recommend the Congress authorize appropriations of $600,000 for continued Flood Control Studies between Great Bend, Kansas and John Martin Dam in Colorado. These Studies cover an area of important agriculture in the United States, and, when completed, will afford local entities and the Corps to determine the best ways to avoid disastrous floods in the future. We also join with the City Council of Pueblo, Colorado, and the County Commissioners of Pueblo County, in recommending the appropriation of $210,000 for Phase II Planning of an essential Flood Control Program in the heart of the City. Phase I was begun immediately after a disastrous flood in 1965, and was completed in February of this year. Agreement has been reached by all parties as to the work necessary, and a copy of a letter from the Fountain Creek Commission accompanies this Statement.

The Committee also recommends the appropriation of $60,000 which will permit the Corps to begin essential Flood Control Studies on Fountain Creek between Colorado Springs and Pueblo. The section of the River is prone to periodic flooding, and a Study will provide essential information for the local entities and the United States on ways to alleviate such expensive and dangerous flooding conditions. We recommend the appropriation of $1.199 million for operation and maintenance of John Martin Reservoir and $288,000 for operation and maintenance of Trinidad Dam and Reservoir. John Martin is used jointly by the States of Colorado and Kansas, and during 1980 a number of Cooperative Programs were developed by Irrigation Companies in both States, and, for the first time since its completion in 1948, the Dam and Reservoir served the type of uses envisioned by the developers of the Project, and those who have seen its potential benefits wasted, because Cooperative Programs could not be developed. This Reservoir is operated in accordance with Interstate Compacts and agreements involving both Pueblo Dam and Reservoir and Trinidad Dam and Reservoir.

Mr. Chairman, and members of the Committee, we again want to thank each of you for the dedicated manner in which you and your distinguished colleagues in the Congress of the United States have permitted those of us who must deal with Water Resource Management on a day to day basis to appear before you to present our recommendations regarding essential Water Resource Programs in the Arkansas River Basin and the United States. We are firmly convinced that investments made by the Congress in such Programs are truly the best investment the United States can make, and economic returns to the economy of our Nation and the world are many times more than the original investment. We hope the members of Congress will continue their strong support for such Water Conservation Programs which will assure a water supply for future generations.

STATEMENT OF GALE A. GRAHAM, MISSOURI CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of the Committee, my name is Gale A. Graham, Banker from Joplin, Missouri, and I appear here today on behalf of the Missouri members of the Arkansas River Basin Interstate Committee. My four colleagues are: Fred A. Lafser, Director, Department of Natural Resources, State of Missouri; Mr. Ted B. Evans, from Carthage, Missouri; Mr. Douglas Mahnkey, Attorney from Forsyth, Missouri; and Mr. Layne Morrell, Realtor from Kimberling City, Missouri. We represent the Southwest corner of Missouri which is a part of the Arkansas River Basin. We are honored to join our colleagues from Arkansas, Kansas, Oklahoma and Colorado in appearing before you today and certainly appreciate the time afforded us to testify collectively in support of appropriations for projects along the entire reach of the Arkansas River.

We have a vital interest in the requests which are being submitted today by the Chairman of our Arkansas River Basin Interstate Committee and urge your favorable consideration of those requests. Included in the President's budget for FY 82 are several projects in Southwest Missouri. We support these projects and hope that the funding as indicated in the President's budget will be approved. However, the capability of the U.S. Corps of Engineers for the Prosperity Lake Study, which was recently shifted from Center Creek to Shoal Creek, is $210,000. The President's budget request is for $150,000. We strongly urge the appropriation of $210,000 which would advance the study by at least three months.

A multipurpose reservoir in this area is urgently needed to meet the ever increasing water supply needs in the area of Carthage, Carterville, Webb City, Carl Junction, Joplin, Neosho and Granby. Not only the increasing population but also the growing per capita demand for water will combine to produce greater demand than supply in the above-mentioned urban triangle within a few years. The use of water from deep wells and streams for irrigation is increasing rapidly. The Missouri Geological Survey Office in Rolla, Missouri reports a drop in the water table of 15 to 20 feet in this immediate area in recent months.

We further support and urge your favorable consideration of all the projects in the Arkansas River Basin as listed on the appropriation request summary which is being presented today by the Chairman of the Arkansas River Basin Interstate Committee.

We have testified each year for many years concerning the importance of water resource management projects in the Arkansas River Basin and many others which are in the overall interest of the United States and we feel that adequate appropriations for such projects at this time will provide both immediate and long-range economic benefits for all our citizens.

We are greatly appreciative of your consideration of our needs in the past and solicit your favorable consideration of our requests as presented here today. We sincerely thank you for the opportunity to present them.

CORPS OF ENGINEERS
FISCAL YEAR 1982 CAPABILITIES IN ARKANSAS
(Vicksburg District Portion Only)

APPROPRIATION/PROJECT	CATEGORY	FY82 BUDGET ($1,000)	FY82 BUDGET ARKANSAS PORTION ($1,000)	FY82 CAPABILITY ($1,000)	FY82 CAPABILITY ARKANSAS PORTION ($1,000)	PURPOSE OF ADDITIONAL CAPABILITY
FC/MR&T, Construction						
Mississippi River Levees	FC	26,100		47,930		Initiate 3 items.
(Vicksburg District Portion)		(10,700)	3,000	(20,700)	5,500	Advance completion 4 months.
Channel Improvement	FC	62,100		145,000		
(Vicksburg District Portion)		(14,000)	200	(46,000)	800	Dikes: Initiate 1 item.
Tensas Basin	FC	25,000		31,700		
Boeuf & Tensas Rivers, etc.		(18,000)		(18,200)		
All Work Except Lake Chicot Pumping Plant		500	0	700	0	No additional requirement in Arkansas.
Lake Chicot Pumping Plant		17,500	17,500	17,500	17,500	No additional requirement.
Red River Backwater Area		(7,000)		(13,500)		
All Work Except Tensas Cocodrie Pumping Plant		800	0	2,300	0	No additional requirement.
Tensas Cocodrie Pumping Plant		6,200	0	11,200	0	No additional requirement.
FC/MR&T, Maintenance						
Mississippi River Levees	FC	7,600		8,440		
(Vicksburg District Portion)		467	155	747	249	Miscellaneous levee repairs.
Channel Improvement	FC	39,564		47,359		
(Vicksburg District Portion)		(9,356)	3,118	(12,215)	4,071	Dikes & Revetment: Repairs at various locations.
Boeuf-Tensas Rivers	FC	94	0	94	0	No additional requirement.
Lower Arkansas River, AR	FC					
North Bank		47	47	47	47	No additional requirement.
South Bank		106	106	106	106	No additional requirement.
Inspection of Completed Work	FC	483	48	483	48	No additional requirement.
Mapping	FC	406	41	511	41	Additional quadrangle mapping.

CORPS OF ENGINEERS
FISCAL YEAR 1982 CAPABILITIES IN ARKANSAS
(Vicksburg District Portion Only)

APPROPRIATION/PROJECT	CATEGORY	FY82 BUDGET ($1,000)	FY82 BUDGET ARKANSAS PORTION ($1,000)	FY82 CAPABILITY ($1,000)	FY82 CAPABILITY ARKANSAS PORTION ($1,000)	PURPOSE OF ADDITIONAL CAPABILITY
FC/MR&T, General Investigations						
Boeuf-Tensas Basin, S.AR & N.LA	FDP	785	195	785	195	No additional requirement.
Collection & Study of Basic Data		165	55	165	55	No additional requirement.
General Investigations						
Ouachita River Basin, AR & LA	FDP	1,000	240	1,300	415	Advance completion of four interim studies: Arkansas Lakes 6 months ($75) Navigation 9 months ($100)
Construction, General						
Blakely Mountain Dam - Lake Ouachita, AR, Sanitation Fac (711)	MP	790	790	790	790	No additional requirement.
Narrows Dam - Lake Greeson, AR, Sanitation Fac (711)	MP	130	130	530	530	Complete construction for sanitary improvements at 4 sites and engineering and design for existing sanitary deficiencies at 8 sites. Initiate sanitary improvements at 2 sites.
Ouachita & Black Rivers, AR & LA	N	24,500	24,150	26,900	26,550	Continue hydrographic surveys. Initiate Felsenthal existing structure removal.
Operation & Maintenance, General						
Blakely Mtn. Dam-Lake Ouachita, AR	MP	2,465	2,465	6,010	6,010	Increased operation of recreation facilities. Repair recreation facilities and roads.

CORPS OF ENGINEERS
FISCAL YEAR 1982 CAPABILITIES IN ARKANSAS
(Vicksburg District Portion Only)

APPROPRIATION/PROJECT	CATEGORY	FY82 BUDGET ($1,000)	FY82 BUDGET ARKANSAS PORTION ($1,000)	FY82 CAPABILITY ($1,000)	FY82 CAPABILITY ARKANSAS PORTION ($1,000)	PURPOSE OF ADDITIONAL CAPABILITY
Operation & Maintenance, General (cont)						
DeGray Lake, AR	MP	2,523	2,523	3,288	3,288	Repairs to project roads.
Narrows Dam-Lake Greeson, AR	MP	2,125	2,125	4,570	4,570	Rehab recreation facilities and increase operation at recreation areas.
Ouachita & Black Rivers, AR & LA	N	3,690	1,490	5,840	1,640	Rehab L&D's after inundation.
General Regulatory Functions	N	584	195	695	232	Aerial photos and navigability studies.
Inspection of Completed Work	FC	64	21	64	21	No additional requirement.

MEMPHIS DISTRICT*

	OPERATION AND MAINTENANCE	REMARKS
MR & T	$11,950,000**	1/3 of capability figure to be used in Arkansas
WHITE	1,843,000	Mile 10 to Newport
BACKWATER	430,000	
HARBORS:		
OSCEOLA	637,000	
HELENA	332,000	

* - Study figure for district omitted.

**- Dredging

ARKANSAS RIVER, ARKANSAS
FY - 82 BUDGET AMOUNTS

[illegible] March 1981

PROJECT	TYPE PROJECT				APPROVED FY - 82 CAPABILITY AMOUNTS
	SURVEYS	ADVANCED ENGINEERING AND DESIGN	CONSTRUCTION	OPERATION AND MAINTENANCE	
ARKANSAS RIVER IN THE VICINITY OF FT. SMITH-VAN BUREN	$410,000	0	0	0	$410,000
ARKANSAS RIVER & TRIBUTARIES HYDROPOWER & OTHER PURPOSES, ARKANSAS AND OKLAHOMA	488,000	0	0	0	488,000
BLUE MOUNTAIN LAKE, ARKANSAS	0	0	0	$635,000	758,000
ARKANSAS RIVER, RUSSELVILLE-MORRILTON, ARKANSAS	0	0	0	0	100,000
CLARKSVILLE, ARKANSAS	0	0	0	0	200,000
DARDANELLE LOCK & DAM, ARKANSAS	0	0	0	3,108,000	3,978,000
McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM, ARKANSAS & OKLAHOMA	0	0	$14,000,000	14,296,000	14,296,000 (O&M) 14,500,000 (Const.)(1
LITTLE ROCK-NORTH LITTLE ROCK, ARKANSAS	0	0	0	0	100,000 (Surveys)
NIMROD LAKE, ARKANSAS	0	0	0	744,000	844,000
OZARK-JETA TAYLOR LOCK & DAM, ARKANSAS	0	0	0	3,666,000	5,956,000
ARKANSAS RIVER HYDROPOWER, MURRAY LOCK & DAM, AR	0	0	0	0	1,000,000 (Adv Pln)
FOURCHE BAYOU IN THE VICINITY OF LITTLE ROCK, AR	0	0	0	0	500,000 (Adv Pln)
TOTALS	$898,000	0	$14,000,000	$22,449,000	$43,130,000

(1) Recommended reduction by $1,500,000 due to low bid on pipeline construction contract.

ARKANSAS RIVER BASIN INTERSTATE COMMITTEE
APPROPRIATION REQUEST SUMMARY
F/Y 82

PROJECT	STATUS	PRESIDENT'S BUDGET	INTERSTATE COMMITTEE REQUEST
ARKANSAS RIVER, CO	(S)	$ 450,000	$ 600,000
ARKANSAS RIVER, AR	(S)	-0-	100,000
CENTRAL OKLAHOMA PROJECT, OK (N)	(S)	-0-	300,000
FOUNTAIN CREEK, PUEBLO, CO (FDP)	(S)	-0-	60,000
GRAND (NEOSHO) RIVER, KS & OK (FDP)	(S)	-0-	400,000
LITTLE ROCK-NORTH LITTLE ROCK NAVIGATION STUDY, AR (N)	(S)	-0-	100,000
POTEAU RIVER, OK & AR (FDP)	(S)	200,000	300,000
PROSPERITY LAKE, MO (FDP)	(SP)	-0-	210,000
ARKANSAS RIVER AND TRIBUTARIES, CO	(SPE)	-0-	210,000
ARKANSAS RIVER AND TRIBUTARIES, MURRAY LOCK AND DAM 7, AR (N)	(SPE)	-0-	1,000,000
ARKANSAS RIVER AND TRIBUTARIES, W. D. MAYO LOCK AND DAM 14, OK (N)	(SPE)	-0-	700,000
FOURCHE BAYOU, LITTLE ROCK, AR (FDP)	(SPE)	-0-	500,000
PARKER LAKE, OK (FDP)	(SPE)	-0-	100,000
VERDIGRIS RIVER, MINGO CREEK, KS & OK (FDP)	(SPE)	-0-	500,000
EL DORADO LAKE, KS (FC)	(C)	$ 2,600,000	$ 4,100,000
SKIATOOK LAKE, OK (FC)	(C)	10,080,000	11,300,000
DOUGLASS LAKE, KS (FC)	(P)	-0-	100,000
SAND LAKE, OK (FC)	(P)	-0-	250,000

WHITE RIVER BASIN
FY 82

WHITE RIVER BASIN, AR & MO (CS)	(S)	-0-	345,000
WHITE RIVER BASIN, COUNTY LINE LAKE, MO (FDP)	(S)	-0-	320,000

* It is emphasized that these requests were developed considering each project by itself. The amounts do not consider fiscal constraints, the administration's assessment of appropriate national priorities for Federal investments, nor the impact of stated capabilities for other individual projects or studies on the Corps' overall capability.

(S)	Study
(SP)	Supplemental Preauthorization Studies
(SPE)	Continuation of Planning and Engineering Studies
(P)	Planning
(C)	Construction
(CS)	Comprehensive Study
(FDP)	Flood Damage Prevention
(N)	Navigation
(FC)	Flood Control

ARKANSAS RIVER BASIN REPRESENTATIVES
AT
CONGRESSIONAL HEARINGS

Houston Adams - President, Bank of Tulsa, Tulsa Oklahoma

E. R. Albert, Jr. - Albert Equipment Company, Tulsa, Oklahoma

Wayne Bennett - Agriculture, Lonoke, Arkansas

Roger Brown - Vice President, Home National Bank, Arkansas, Kansas

Jacques Cunningham - Port Director, Tulsa Port of Catoosa, Catoosa, Oklahoma

R. Dow Damron - Executive Vice President, Arkansas Basin Development Association, Tulsa, Oklahoma

Ted B. Evans - President, United Missouri Bank, Carthage, Missouri

James O. Foster - Utilities Coordinator, Boeing Military Airplane Company, Wichita, Kansas

Wallace A. Gieringer - Pine Bluff-Jefferson County Port Authority, Pine Bluff, Arkansas

Gale A. Graham - Executive Vice President, First National Bank of Joplin, Joplin, Missouri

Homer Hall - Ozark, Arkansas

Lee H. Hancock - The High Line Company, Rocky Ford, Colorado

John Javernick - Canon City, Colorado

Robert S. Kerr, Jr. - President, Oklahoma Water, Inc., Oklahoma City, Oklahoma

Robert J. LaFortune - Oil Operator, Tulsa, Oklahoma; President, Arkansas Basin Development Association, Tulsa, Oklahoma

Frank W. Liebert - Coffeyville, Kansas

Charles Maynard - President, Pulaski County Flood Control Association, Little Rock, Arkansas

William McDonald - Director, Colorado Water Conservation Board, Denver, Colorado

R. Layne Morrill - Shepherd of the Hills Realty Company, Kimberling City, Missouri

Ray D. Nixon - Colorado Springs, Colorado

Bill Perry - President, Metropolitan Little Rock Chamber of Commerce, Little Rock, Arkansas

Pratt Remmell- Director, Arkansas Basin Association in Arkansas, Little Rock, Arkansas

Harold B. Scoggins - Muskogee, Oklahoma

Charles Steel - President, Arkansas Basin Association in Arkansas, Little Rock, Arkansas; Sr. Vice President, Arkansas Power and Light Company, Little Rock, Arkansas

Charles L. Thomson - Southeast Colorado Water Conservation District, Pueblo, Colorado

Fred G. Turner - Editor & Publisher, McAlester News - Capital, McAlester, Oklahoma

Jerry Virden - Morrilton, Arkansas

Arthur T. Woodman - Architect, Wichita, Kansas

Bob Wright - Muskogee Chamber of Commerce, Muskogee, Oklahoma

The ARKANSAS RIVER BASIN INTERSTATE COMMITTEE Members are:

FROM ARKANSAS:

W. A. Gieringer, Pine Bluff-Jefferson County Port Authority, Pine Bluff, AR - (State Chairman)

Wayne Bennett, Farmer and Businessman, Lonoke, AR

Homer Hall, Retired Farmer, Ozark, AR

Jerry Virden, Manager, Pine Crest Wood Products, Morrilton, AR

FROM OKLAHOMA:

Houston Adams, President, Bank of Tulsa, Tulsa, OK - (State Chairman)

E. R. Albert, Jr., Albert Equipment Company, Tulsa, OK

Robert S. Kerr, Jr., Oklahoma Water, Inc., Oklahoma City, OK

Harold B. Scoggins, Muskogee, OK

Fred G. Turner, Editor and Publisher, McAlester News-Capital, McAlester, OK

R. Dow Damron, Executive Secretary, Interstate Committee

FROM KANSAS:

James O. Foster, Utilities Coordinator, Boeing Military Airplany Company, Wichita, KS - (State Chairman)

Roger Brown, Vice President, Home National Bank, Arkansas, KS

Frank W. Liebert, Attorney, Coffeyville, KS

Taylor Peckham, Peckham Insurance Agency, Augusta, KS

Arthur T. Woodman, Architect, Wichita, KS

FROM COLORADO:

Charles L. Thomson, General Manager, Southeast Colorado Water Conservancy District, Pueblo, CO - (State Chairman)

Lee H. Hancock, The High Line Canal Co., Rocky Ford, CO

John Javernick, Farmer and Rancher, Canon City, CO

William McDonald, Director, Colorado Water Conservation Board, Denver, CO

Ray D. Nixon, Colorado Springs, CO

FROM MISSOURI:

Gale A. Graham, Vice President, First National Bank and Trust Company, Joplin, MO - (State Chairman and Chairman of the Interstate Committee)

Ted B. Evans, President, United Missouri Bank, Carthage, MO

Fred A. Lafser, Director, Department of Natural Resources, Jefferson City, MO

Douglas Mahnkey, Attorney, Forsyth, MO

R. Layne Morrill, Realtor, Shepherd of the Hills Realty, Kimberling, MO

Statement of Coleman Fite, Mayor, Muskogee, Okla., et al.

On behalf of the citizens of the City and County of Muskogee, Oklahoma, we endorse and approve the action of the Arkansas River Basin Interstate Committee from Arkansas, Colorado, Kansas, Missouri, and Oklahoma in presenting their requests for appropriations with which to continue development of the natural resources in the Arkansas River Basin, before this honorable Committee of the United States Congress.

In addition, we endorse the full program on Public Works as adopted by the Arkansas River Basin Development Association of Oklahoma.

We are firmly behind those, who for years have supported the operation of the McClellan-Kerr Arkansas River Navigation System and completion of projects for the elimination of salt from the waters of the Arkansas and Red Rivers.

Nothing in the past half century has boosted the economy of the southwest as much as the completion of the Navigation System. Not only does it provide us with an economic source of transportation in savings on freight rates and electric energy but it also provides tremendous recreation and flood control facilities for the benefit of literally millions of people.

With such progress comes problems, which are simply part of the upkeep of such major projects, and correcting or eliminating them is as important as building the navigation system itself. We respectfully request that every consideration be given to the recommendations of the Arkansas River Basin Interstate Committee in order that our progress can continue to be as strong in the future as it has in the past recent years.

Statement of Manuel Rivera, Chairman, Fountain Creek (Colo.) Commission

At their February, 1981 meeting, the U.S. Army Corps of Engineers-Bureau of Rivers and Harbors approved a flood control project plan for the Fountain Creek in Pueblo, Colorado and has forwarded the plan to Congress for funding.

This project will necessitate the construction of levees and the clearing of the channel to provide much-needed flood protection to residential areas on the east side and for downtown Pueblo.

To quote from the Corps of Engineers report on the June 17, 1965 flooding of Fountain Creek: "Approximately 53 city blocks were inundated up to a depth of eight feet. City streets and utilities were washed out or clogged with debris; the interstate freeway was blocked and severely damaged; segments of the main railroad line were washed out; and several industrial and governmental establishments were heavily damaged or destroyed. There were 370 residences and 59 businesses damaged, touching 417 Pueblo County families."

This flood in 1965 produced a peak flow of 47,000 cfs on the Fountain Creek. The 100-year flood is estimated at 64,000 cfs. The proposed Corps of Engineers' project would provide protection of at least 85,000 cfs.

This project is essential to prevent the recurrence of serious flooding in Pueblo; and it will also provide for recreational facilities, bike and hiking trails, bridle paths, playgrounds and wildlife areas in the floodplain.

The program has broad public support. Not only have the State of Colorado, the Colorado Water Conservation Board, the City of Pueblo, the Pueblo Board of County Commissioners, and a number of other political entities indicated their strong support for the project--but other groups and local citizens are anxiously awaiting the implementation of the project.

If we can provide any additional information to your staff, please feel free to have them contact me at (303)544-3392 or D.R. Luster at (303)561-6431.

Statement of Robert Moyer, President, Joplin (Mo.) Chamber of Commerce, et al.

It was determined by the U.S. Corp of Engineers in 1980 that a multipurpose lake on Center Creek was not economically feasible. Subsequently the study was shifted to possible locations on Shoal Creek. The cities of Joplin and Neosho as well as several incorporated villages in the area depend on Shoal Creek for their water supply. Drought conditions in the area have been quite severe and this, together with the rapidly increasing use of water for irrigation, have caused the water level in our area to drop 15 to 20 feet recently. The flow in Shoal Creek is at a very low level at this time and, if drought conditions continue, our area could very well be in trouble.

The President's budget allocates $150,000 to the Prosperity Lake study of alternate sites on Shoal Creek for FY 82. The U.S. Corp of Engineers have indicated a capability of $210,000 for FY 82. The additional $60,000 could speed up completion of the study by three months. We sincerely feel that the additional $60,000 should be budgeted for FY 82 and hereby request that the full capability of $210,000 be allocated for this project for FY 82.

Letter From James H. Phillips, Executive Director, Arkansas Waterways Commission

March 11, 1981

Honorable Mark Hatfield, Chairman
Senate Energy and Water Development Sub-Committee
United States Senate
Washington, D. C. 20510

Dear Senator Hatfield:

This letter is a component of a package submitted by Wallace A. Gieringer Arkansas State Chairman, Arkansas River Basin Interstate Committee.

It is again the time of the year when the Arkansas Waterways Commission makes an appeal to Congress for funds to continue the development and operation and maintenance of the waterways of this State and the nation for water transportation and related purposes. We are aware of the need for a balanced budget and know that priorities must be set for federal investments. For these reasons, along with the long range objective of conserving energy, we request approval of the Corps of Engineers capability figures on the enclosure.

The nation's energy problem is one of the most serious problems facing the American people, and water transportation is acknowledged as being the most energy efficient means of transporting bulk commerce to locations where required. Arkansas must take advantage of the waterways as a means of transportation since 55 of our 75 counties are contiguous to navigable rivers. When developed these basins will assist the State and nation to achieve the long range goal of independence from foreign energy producers. We believe the identified investments in the river basins are basic to the needs of the nation and should be funded.

We are of the opinion that the appropriation of funds in the amount that the Corps of Engineers has indicated to be within their capability would do much to improve the economic situation in Arkansas by sustaining and attracting industry, putting people back to work by creating jobs, conserving fuels and enhancing the environment.

In view of the varying conditions of the inland rivers during the last several years (low flows) and the resultant deteriorated channels, it is particularly important that funds amounting to the Corps' maintenance capability be appropriated. As an example, unless the capability amounts are appropriated project widths cannot be maintained on the McClellan-Kerr System and there will be deterioration to the facilities that will result in decreased efficiency and increased costs in future years. This fact was driven home during the drought this past summer.

This Commission would appreciate your personal support and the support of your Sub-Committee in behalf of the projects discussed herein.

Sincerely,
James H Phillips
James H. Phillips
Executive Director

STATEMENT OF GEORGE C. MEESE, MAYOR, BARTLESVILLE, OKLA., ET AL.

The Bartlesville area is dependent on the Sand Lake for future water supplies. The City of Bartlesville made application for water supply storage in Sand Lake on May 16, 1960. Additional water supplies will be a necessity in 1988-1990. If our area is to continue to grow and prosper, it is imperative that planning funds be made available now for Sand Lake. Since it will take six or seven years to plan this project and another five years for completion, we find it essential that funds be appropriated in order that the water supply will be available when needed.

The Sand Lake should receive high priority consideration, as it offers benefits much more far-reaching geographically than the immediate vicinity. It will help alleviate flood conditions in the Caney, Verdigris and Arkansas River Basins. It is part of an integrated basin plan approved by Congress in 1962. All of the other structures are presently under construction. Without Sand Lake, we do not have a completed system.

We, the undersigned, strongly urge that the currently needed appropriation of $250,000 be made to start planning for Sand Lake.

STATEMENT OF HON. BOB DOLE, U.S. SENATOR FROM KANSAS

Senator JOHNSTON. Now I would like to introduce Senator Dole, who is chairing the Senate Finance Committee and came down very quickly to introduce those of this group from Kansas.

Senator Dole, I am glad to have you, sir.

Senator DOLE. Thank you, I appreciate your allowing me to interrupt for a few moments.

My statement can follow the present testimony in the record.

I just wanted to be here to indicate my support for the projects that everyone here is so concerned about. I think our Kansas delegation is fairly well satisfied, though there are a few requests that we may make to the committee. I wanted to indicate that I am here to support the efforts of Jim Foster and Art Goodman and Frank Liebert who will be testifying in support of our Kansas River basin projects in the State of Kansas. And I would like my statement made a part of the record.

Senator JOHNSTON. Yes, this will be done.

Senator DOLE. I reviewed the summary of fiscal year 1982 capabilities in the Arkansas basin and I think, perhaps with maybe one or two exceptions, we are very well satisfied as far as our State is concerned.

I appreciate the courtesy of the chairman. We are in the process in the Finance Committee of trying to figure out how to cut the budget, so I am aware of the budget constraints. I just left a very unhappy group upstairs. That was not a bad idea, but I have to go back.

Senator JOHNSTON. If you raise the money, we will spend it for you; put it to very good use.

Senator DOLE. We are pretty good at spending, too, that is my problem. But I do thank you and, if I can, I will make my statement part of the record in support of the project, and I wish my colleagues the best.

Senator JOHNSTON. Thank you very much, Senator Dole.

Senator DOLE. I know the chairman will be more helpful than LSU was to Wichita State.

Senator JOHNSTON. We are sorry to have discouraged Wichita State, we just couldn't help it.

[The statement follows:]

STATEMENT OF SENATOR BOB DOLE

Mr. Chairman, it is my pleasure this morning to introduce Jim Foster, Art Goodman, and Frank Liebert, who will be testifying in support of Arkansas River basin projects in the State of Kansas.

The need for advanced planning in the construction of water projects has been underlined in recent months by the drought which threatens the water supplies in communities throughout Kansas and the country. Particularly hard hit has been southeastern Kansas, much of which is in the Arkansas River basin. Communities in the part of the State are already taking emergency steps to alleviate a problem which promises to grow worse.

It is in this context that we now plan for the future water needs of the Arkansas River basin. I urge the committee to carefully consider the comments of these men, who have extensive experience in the water needs of our State.

I hope you will also consider the flood control problems besetting Kansas. We suffer the irony of frequent drought and persistent flooding, for the system is unable to contain the heavy rains we do occasionally receive. Improved water storage can solve both problems.

I thank the committee for its consideration of these projects.

NUCLEAR MEDICINE RESEARCH

STATEMENT OF DR. DONALD HOLMQUIST, AMERICAN COLLEGE OF NUCLEAR PHYSICIANS

ACCOMPANIED BY DR. OSCAR POWELL

Senator JOHNSTON. Our next—out of order let me introduce Dr. Holmquist and Dr. Powell, with the American College of Nuclear Physicists.

Gentlemen?

Dr. HOLMQUIST. Mr. Chairman, I am Donald Holmquest, M.D., chairman of the government affairs committee of the American College of Nuclear Physicians and a member of the Society of Nuclear Medicine.

With me is Dr. Oscar Powell, a past president of the college and presently an officer in the society. We thank you for this opportunity to appear before you on behalf of these two organizations.

The American College of Nuclear Physicians is an organization representing more than 1,200 physicians and scientists who actively practice nuclear medicine in this country. The Society of Nuclear Medicine represents almost 10,000 physicians, physicists, chemists, radiopharmacists, nuclear medicine technologists, and other professionals, all of whose career interests are in the diagnostic and therapeutic use of radioactive materials in medical applications. I am pleased to offer today the views of the American college and the society which strongly endorse the proposed fiscal 1982 budget for the support of nuclear medicine research.

The college and the society recognize that the constraints on the 1982 budget are severe and that it is imperative that we justify why research activities should continue to be supported strongly and indicate how this research can be beneficial, both socially and economically. We believe that in nuclear medicine, it can be shown that the translation of basic research into productive clinical tools occurs more rapidly and that more benefits are returned to the American public than in almost any other field of health-related research.

NUCLEAR MEDICINE BENEFITS

What is nuclear medicine today? Nuclear medicine is the use of low-level radioactive materials in the diagnosis—and, in some instances, in the therapy—of disease in humans. Patients frequently come to their physician with signs and symptoms that can be related to two or more diseases, each of which requires a different treatment. Good diagnostic procedures are, therefore, essential if the physician is to direct the management of the patient in an appropriate manner and avoid costly—both in dollars, in physical pain, and mental anguish—delays in selecting the correct treatment. Nuclear medicine studies provide such diagnostic techniques in a unique manner.

In the most common type of nuclear medicine procedure, the in vivo study, a very small amount of a radioactive drug is administered to the patient, usually by injection. In most cases, the drug is specifically designed to concentrate in a particular organ and, in a few instances, to be further metabolized or removed from the body by that organ.

In some cases, the drug is designed to be concentrated only in the abnormality, such as a brain tumor or a myocardial infarct; in others, the drug localizes only in the normal tissue. The radioactivity emitted from the internally trapped drug permits very sophisticated external instrumentation to record permanent dynamic images of the distribution of radioactivity in the organ selected for study. In some laboratories, the data derived from the examination are processed by computer and the image reconstructed so that the overall spatial resolution and diagnostic accuracy of the study is further improved. Most major organ and tissue systems of the body can be examined in this fashion, including the brain and central nervous system, lungs, liver, kidneys, bone, thyroid, pancreas, and the cardiovascular system.

How effective are nuclear medicine procedures? What benefits have been realized from the development and the utilization of nuclear medicine procedures, and why is more research likely to yield even further benefits? The college and the society believe that nuclear medicine procedures, by improving and streamlining the diagnostic process (*a*) reduce the total treatment expense, hospital time, and patient suffering by directing therapy more rapidly toward the appropriate causes of the disease, and (*b*) provide, in many areas, more specific and clinically useful information on the patient's problems than that available from many other currently available diagnostic modalities.

Because nuclear medicine procedures can study dynamic body functions, they can tell us what the body does—or does not do—as opposed to static radiologic procedures, which show merely what shadow is—or is not—present.

In addition, nuclear medicine procedures are a unique area where basic research in the chemical, biological, and physical sciences merge quickly and easily with clinical research, allowing a rapid transfer of basic science findings from the research laboratory to clinical practice. A number of specific examples may be used to document these statements.

One of the most dramatic examples of the rapid transfer of nuclear medicine research developments from the laboratory to the hospital is in the noninvasive study of coronary heart disease.

Heart attacks kill approximately 700,000 people annually and are the leading cause of death in the United States. Almost 300,000 individuals suffer their first heart attack without prior knowledge of having coronary artery disease. Great strides have been made in treating this serious health problem once it has been identified. Nuclear diagnostic techniques that have been developed and applied in just the past 3 years are found to be significantly more sensitive in identifying individuals with diseased coronary arteries than previously used methods, such as electrocardiographic stress reading.

Senator JOHNSTON. How do you do this, how do you identify coronary artery disease with nuclear medicine?

Dr. HOLMQUIST. There are several ways you can do it. One of the more direct methods is the use of an isotope which is localized in the heart in the direction of the blood flow to the heart, and then with a scintillation camera you can take multiple images of the heart and you can actually see those areas of the heart that are not receiving blood flow.

Senator JOHNSTON. This is not a substitute for where you put the catheter?

Dr. HOLMQUIST. Cardiac catheterization. Yes, it is. It is a cardiac coronary arteriography. There are a number of names.

Senator JOHNSTON. Yes. Is this a substitute for that?

Dr. HOLMQUIST. It will displace many of the studies that would normally be done. For example, if you do this study and it is normal, there is no need to go further to the coronary artheriogram. If it is abnormal and you decide it should be operated on, more than likely you will go ahead and do the coronary arteriogram.

Senator JOHNSTON. You basically inject sort of a radioactive substance and photograph it as it courses through the heart?

Dr. HOLMQUIST. You inject a very small amount, maybe 1 millimeter into a vein, not an artery, with a needle, not a catheter, and maybe wait 5 minutes. This is biochemically designed so the body thinks the thalium is potassium and the body concentrates potassium. But it would only concentrate in that part of the body which has blood flow.

So you have a heart with a trapped drug that is radioactive and we can see these with external detectors. So you don't need a catheter or arteriogram. If that study is normal there is almost no need to go further to the arteriogram. You don't have to be hospitalized.

Senator JOHNSTON. What is the life of the thalium?

Dr. POWELL. Seventy-two hours.

Senator Johnson. And so you can pretty well avoid the arteriogram?

Dr. HOLMQUIST. If it is normal. In many cases you can. A large majority of the cases you can avoid the arteriogram. The arteriogram would no longer be the first test you would do That is only one of the tests. You can also study the function of the heart by using an isotope which labels the red blood cells and then with a computer track the heart through its cycle and look at how each part of the wall moves, and that part of the heart that is not getting blood flow doesn't move normally and you can further identify the area.

Senator JOHNSTON. Can you identify a preheart condition, a blocked artery?

Dr. HOLMQUIST. If it is causing a functional impairment or an increase in blood flow, yes, you can see that.

Senator JOHNSTON. Say it is like two-thirds closed, so that blood is getting to the heart, but in a decreased amount.

Dr. HOLMQUIST. That is, of course, the reason this is so important. You can identify it before you have the miocardial.

Senator JOHNSTON. Well, why wouldn't they use this just all the time?

Dr. POWELL. Well, Senator, there are two conditions which we cannot, to date, provide information on. These are the actual interior anatomy of the coronary artery. We can't show the course of the artery nor can we make pressure measurements within the heart. We can show direction of blood flow in the heart and show the actual ability of the heart to pump, and show where there are areas of damage, that is to say scars, infarct.

Senator JOHNSTON. This is more for assessing past damage?

Dr. POWELL. Well, we can also show areas where there is impaired blood flow.

It shows where the blood flow is, whether it is uniform or diminished as a consequence of the effort the individual is going through on a treadmill, and then wait about 3 hours and show the redirection flow at that point. If an area fills in at rest we can be sure the area where there was diminished flow to begin with is an area where there is poor coronary artery supplement.

Senator JOHNSTON. Why wouldn't you just do this as a matter of course in annual physicals, or every 2 or 3 years in an annual physical?

Dr. POWELL. That is the potential.

Senator JOHNSTON. Is it expensive?

Dr. POWELL. It is about $200.

Dr. HOLMQUIST. The isotope alone may cost $150 to $200. The computer, if you use one, can be quite expensive. But it is certainly cheaper than going to the hospital. Once you reach a certain age, it might be worthwhile doing, particularly if you are like me and a lot of other people, you occasionally get some chest pain.

Senator JOHNSTON. The arteriogram is somewhat risky, isn't it?

Dr. POWELL. You have a catheter fed up into the artery, into the heart, and contrast material injected and that in itself has some risk. It is not pleasant to have it done. People don't like to have this done more than once or twice whereas the isotope studies can be done repeatedly at little or no discomfort.

Senator JOHNSTON. Well, gentlemen, let me say I am a strong supporter of your program. I am quite familiar with it. I have seen the radionuclei, the INS beam out in California, had that explained about how you can slow it down so that the ions begin to tumble right in the beginning of the cancer, and we know, I guess two out of three admissions to hospitals now use nuclear medicine in one way or the other. This kind of research which you do is most important, most important for the country, and I think our committee will continue to support it. I know I will.

Are you pleased with the budget? Will it be adequate?

Dr. HOLMQUIST. That is what we are here to say. We endorse the budget as it has been requested.

Senator JOHNSTON. Don't smile when you say that, Stockman will be around to cut it down.

Dr. HOLMQUIST. It is not nearly enough, but I think we can get by.

Senator JOHNSTON. Thank you very much, gentlemen.

[The statement follows:]

STATEMENT OF DONALD HOLMQUEST, M.D., AMERICAN COLLEGE OF NUCLEAR PHYSICIANS

Mr. Chairman, Members of the Subcommittee, I am Donald Holmquest, M.D., Chairman of the Government Affairs Committee of the American College of Nuclear Physicians and a member of the Society of Nuclear Medicine. With me is Dr. Oscar Powell, a past president of the College and presently an officer in the Society. We thank you for this opportunity to appear before you on behalf of these two organizations.

The American College of Nuclear Physicians is an organization representing more than 1200 physicians and scientists who actively practice nuclear medicine in this country. The Society of Nuclear Medicine represents almost 10,000 physicians, physicists, chemists, radiopharmacists, nuclear medicine technologists, and other professionals, all of whose career interests are in the diagnostic and therapeutic use of radioactive materials in medical applications. I am pleased to offer today the views of the American College and the Society which strongly endorse the proposed Fiscal 1982 budget for the support of Nuclear Medicine Research.

The College and the Society recognize that the constraints on the 1982 budget are severe, and that it is imperative that we justify why research activities should continue to be supported strongly and indicate how this research can be beneficial, both socially and economically. We believe that in nuclear medicine, it can be shown that the translation of basic research into productive clinical tools occurs more rapidly and that more benefits are returned to the American public than in almost any other field of health-related research.

WHAT IS NUCLEAR MEDICINE TODAY?

Nuclear medicine is the use of lowlevel radioactive materials in the diagnosis (and, in some instances, in the therapy) of disease in humans. Patients frequently come to their physician with signs and symptoms that can be related to two or more diseases, each of which requires a different treatment. Good diagnostic procedures are therefore essential if the physician is to direct the management of the patient in an appropriate manner and avoid costly (both in dollars, in physical pain, and mental anguish) delays in selecting the correct treatment. Nuclear medicine studies provide such diagnostic techniques in a unique manner.

In the most common type of nuclear medicine procedure, the in vivo study, a very small amount of a radioactive drug is administered to the patient, usually by injection. In most cases the drug is specifically designed to concentrate in a particular organ and, in a few instances, to be further metabolized or removed from the body by that organ. In some cases, the drug is designed to be concentrated only in the abnormality, such as a brain tumor or a myocardial infarct; in others the drug localizes only in the normal tissue. The radioactivity emitted from the internally trapped drug permits very sophisticated external instrumentation to record permanent dynamic images of the distribution of radioactivity in the organ selected for study. In some laboratories, the data derived from the examination are processed by computer and the image reconstructed so that the overall spatial resolution and diagnostic accuracy of the study is further improved. Most major organ and tissue systems of the body can be examined in this fashion, including the brain and central nervous system, lungs, liver, kidneys, bone, thyroid, pancreas, and the cardiovascular system.

These studies provide extremely valuable information to the attending physician. If the study shows that no abnormality is present, the patient can be reassured and possibly discharged from the hospital or perhaps the physician can turn his attention to other problems. If the study discovers that disease is present, then the physician can turn quickly to the next diagnostic phase or perhaps begin therapy. In some situations, the information derived from the nuclear medicine study can be life saving. In others, at the very least, it assists the physician responsible for the care of the patient in providing the most efficient and best treatment possible under individualized circumstances. Further, it should be noted that nuclear medicine in vivo diagnostic procedures are noninvasive, safe, and essentially painless for the patient; the only sensation the patient feels is that occasioned by the needle stick when the drug is administered. Allergic reactions are rare because the amount of drug actually needed is extremely small compared to the amounts usually needed for a pharmacologic response.

Approximately 37 million people are admitted to hospitals in this country each year. It is estimated that more than 60 million nuclear medicine procedures are performed each year in hospitals and clinics in the U.S. When one considers that, on the average, a nuclear medicine procedure is performed on one out of every two people admitted to hospitals in the U.S. as well as on large numbers of outpatients, the impact of this unique medical science on health care delivery becomes apparent.

HOW EFFECTIVE ARE NUCLEAR MEDICINE PROCEDURES?

What benefits have been realized from the development and the utilization of nuclear medicine procedures, and why is more research likely to yield even further benefits? The College and the Society believe that nuclear medicine procedures, by improving and streamlining the diagnostic process (a) reduce the total treatment expense, hospital time, and patient suffering by directing therapy more rapidly towards the appropriate causes of the disease, and (b) provide, in many areas, more specific and clinically useful information on the patient's problems than that available from many other currently available diagnostic modalities. Because nuclear medicine procedures can study dynamic body functions, they can tell us what the body does (or does not do), as opposed to static radiologic procedures, which show merely what shadow is (or is not) present.

In addition, nuclear medicine procedures are a unique area where basic research in the chemical, biological, and physical sciences merge quickly and easily with clinical research, allowing a rapid transfer of basic science findings from the research laboratory to clinical practice. A number of specific examples may be used to document these statements.

Example Nuclear Cardiology Imaging

One of the most dramatic examples of the rapid transfer of nuclear medicine research developments from the laboratory to the hospital is in the noninvasive study of coronary heart disease. Heart attacks kill approximately 700,000 people annually and are the leading cause of death in the United States. Almost 300,000 individuals suffer their first heart attack without prior knowledge of having coronary artery disease. Great strides have been made in treating this serious health problem once it has been identified. Nuclear diagnostic techniques that have been developed and applied in just the past three years are found to be significantly more sensitive in identifying individuals with diseased coronary arteries than previously used methods, such as electrocardiographic stress testing.

These important advances have been the result of research programs directed both towards developing improved nuclear detection instrumentation and identifying better radioactive trace substances necessary to study te natural history of the disease and the hemodynamic consequences of coronary artery narrowing on heart function. These newly developed nuclear cardiovascular diagnostic methods are being applied clinically with increasing frequency in outpatient facilities where men and women in certain high risk categories can be screened early for heart disease, and they are being used also to assess the extent of damage after heart attacks have occurred. The use of such procedures has resulted in significant savings in hospital costs since the hospitalization normally required for the more extensive diagnostic tests such as cardiac catheterization is no longer necessary.

Investigators in nuclear medicine working under the support of the Human Health Studies Program of the Department of Energy have made many of the most significant contributions to this field through their development of the advanced detection instrumentation needed in nuclear medicine to produce and test the necessary radioactive diagnostic agents. However, researchers have only begun to explore the full potential of these newer tests to detect latent heart disease and to evaluate the benefits of modern medical and surgical treatment.

We realistically anticipate that, with increased funding for research in this field, improved diagnostic procedures will become available to community practitioners. With these tools, they may more effectively deal with this devastating health problem which effects all citizens either by direct suffering or in terms of reduced national productivity.

Example - Cancer Studies

Another specific example is found in cancer-related studies. The major emphasis of nuclear medicine in the field of cancer has moved from the therapeutic use of radioactive materials to the use of novel imaging modalities which permit the early detection and staging of cancers. We are now witnessing the growing use of nuclear medicine procedures in monitoring the therapy of cancer and in discovering recurrences. Although imaging procedures constitute a valuable adjunct to early diagnosis and staging, without which the practice of modern medical oncology could not be conducted, present technology cannot pinpoint very small lesions, and in some cases the results, while positive, are non-specific. We need to perfect and improve these techniques by obtaining more specific radioactive tracers, by pursuing more sophisticated immunologic and biochemical studies, and by developing instruments with better spatial resolution such as that offered by emission tomographic techniques. The detection in the patient of "tumor markers" using radioimmunoassay techniques now permits us to discover the presence of primary tumors and metastases before they have become evident clinically. These tests need to be expanded in scope and refined in specificity.

Research that would improve the sensitivity and specificity of these and other tumor detection assays promises to have a great impact on patient care. Early and accurate diagnosis is one of the most important factors that allows the medical oncologist to determine the proper course of treatment. An earlier and more accurate decision will reduce hospital stay and eliminate lengthy trials with unresponsive modes of treatment.

In addition, nuclear medicine procedures are a most important means of monitoring therapy in the cancer patient by providing information on progression or regression of the tumor. This information allows the clinician to continue or modify his treatment accordingly. Among the most serious problems in cancer chemotherapy are the serious side effects that antineoplastic agents cause. Again, such effects can often be most efficiently monitored by the use of nuclear medicine procedures. Inflammatory lesions in the lungs, complicating infections, and the cardiotoxic effects of adriamycin are among the many side effects that may be detected by the use of nuclear medicine procedures. These techniques are growing in use and are representative of how nuclear medicine methods enhance the field of cancer treatment.

Example - Pediatric Nuclear Medicine

A further example of how research and development of nuclear medicine techniques has improved health care and reduced costs is in the area of pediatric nuclear medicine. A nuclear bone scan is a most effective diagnostic technique in the early differentiation of cellulitis from osteomyelitis, and it allows the decision to be made between a short hospitalization for the patient with cellulitis and the several weeks of hospitalization and drug therapy for the patient with osteomyelitis. In addition to its cost effectiveness, the ability to make this decision early avoids, for the children as well as their families, the trauma of unnecessary hospitalization.

Example - Radioimmunoassay

The first Nobel Prize in Medicine to be awarded for research in Nuclear Medicine went in 1978 to an American, Dr. Roslynn Yalow. Dr. Yalow, then a researcher at the Veterans Administration, pioneered and developed the field of radioimmunoassay, an in vitro nuclear medicine test that is unique today in that it can detect readily, accurately, and inexpensively almost any substance present in biological samples at levels as low as a fraction of a billionth of a milligram! Over 50 companies in the United States now manufacture radioimmunoassay tests that permit us to detect the specific disease markers in patients, measure blood levels of critical but toxic drugs, and measure pollutants and toxic materials in the biological environment.

Many more examples could be drawn from research in progress in such important fields as mental health, lung disease, renal disease, and others. In essence, these examples all document one clear fact: nuclear medicine procedures are a prime example of rapid technology transfer, where research findings are applied to clinical problems in a very short time. These procedures are clinically useful, cost effective, and noninvasive.

PROMISING AREAS OF RESEARCH

What are some of the areas for which these research funds might properly be used? In addition to further developments and efforts in the areas described above, these funds should be utilized for research in the following areas:

(a) Expanded radioisotope production efforts that will provide new nuclides from accelerators and increase the supply of radionuclides for intramural and extramural radiopharmaceutical development and clinical feasibility studies.

(b) Radiopharmaceutical research to improve our understanding of pharmacodynamics and pharmacokinetics, to increase the specificity of tracer uptake, to measure the effects on biodistribution caused by changing functional chemical groups on radiopharmaceuticals and by drug interactions, to address problems related to biological effects of environmental pollutants, and to achieve patient dose reductions through development of labeled drugs having radionuclides with more desirable decay properties and/or biological half-lives.

(c) Nuclear medicine instrumentation research, particularly in areas of new detector research and emission tomography development.

These are merely a few examples. The American College of Nuclear Physicians and the Society of Nuclear Medicine would welcome the opportunity to assist you in further identifying research targets that will help us to capitalize on the federal dollars invested in research. We urge Congress to continue its support of increased research in the basic and applied sciences that feed nuclear medicine applications development.

All of the public health benefits described are clearly supported by the administration's budget for Program and Capital Equipment. Many of the gains sought in clarity of image and reduced radiation dosage to patients will require specific improvements in the capital equipment available for use in the national laboratories. We support the proposed capital equipment budget pertaining to nuclear medicine research and urge its approval.

The problems we face in providing health care to the American public are enormous. But improved diagnostic procedures that are safe, cost-effective, and accurate will do much to move us forward in our effort to bring better health to all our citizens.

Thank you for the opportunity to present this testimony. I would be happy to answer any questions you might have.

RECOMMENDATIONS

DEPARTMENT OF ENERGY
OFFICE OF HEALTH AND ENVIRONMENTAL RESEARCH
HUMAN HEALTH STUDIES PROGRAM
IN
NUCLEAR MEDICINE RESEARCH

I. That the proposed Fiscal Year 1982 budget for Nuclear Medicine Research in the Human Health Studies Program of the Office of Health and Environmental Research of the Department of Energy be approved.

II. That research efforts be emphasized in

  A. Expanded radioisotope production

  B. Radiopharmaceutical research

  C. Nuclear medicine instrumentation

III. That the Capital Expenditures Budget for Nuclear Medicine Research for Fiscal Year 1982 be approved.

STATEMENT OF EDWARD LEAR, NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

Senator JOHNSTON. Next we have Mr. John Crowley, director of Federal relations for science research, Association of American Universities, and Dr. Edward Lear, National Association of State Universities and Land-Grant Colleges.

Mr. LEAR. Mr. Chairman, thank you.

I am speaking on behalf of Mr. Crawley and the other associations listed there in the printed testimony which are the associations representing the bulk of the institutions which turn out scientists and engineers for the Nation's work.

I appreciate very much having this opportunity to discuss briefly a couple of issues related to the appropriation for the Department of Energy.

ENGINEERING MANPOWER PROBLEM

I would first like to call your attention to a very precarious situation which exists with regard to the ability of the engineering colleges of the Nation to produce in adequate numbers and adequate quality the future manpower needs of our industrial engineering capabilities. We find ourselves in this situation primarily because of what has been labeled very adequately the crisis in engineering education, and it is just that. I have illustrated some of the parts of that in the printed testimony but let me just briefly state how this hinges on the manpower capability of the Nation.

The engineering colleges are grossly overcrowded now, the facilities and the faculties are overextended with the highest enrollment of students ever. These students are being sought by industry and government and competition is very keen, salaries are in the neighborhood of $25,000 a year. Starting salaries of B.S. graduates are not infrequently, in many disciplines, higher than those of many of the professors which the students have had.

The ready availability in the job market of the high salaries, of good jobs, has decreased the attractiveness of graduate school, particularly going on to doctorates, so that students are going into the work force with bachelor degrees and over the past several years our production of engineering Ph. D.'s has dropped drastically, gone down to 2,700 this past year, down 1,000 from 1972, and of that number almost half are foreign nationals and of the remaining U.S. citizens, about two-thirds go into industry and government, which is appropriate, but leaving an extremely small pool of people trained at this level for the university engineering faculties.

The need presently is for about 2,000 people in engineering; there are that many openings around the country and they simply cannot be filled. So, in the face of this, engineering colleges in increasing numbers have moved to limit or decrease engineering enrollments.

And the result of this, of course, is going to be more competition for the graduates, higher competitiveness among the employers, less tendency for the undergraduate school, and the cycle continues.

We simply have a situation which is self-generating, impeding on itself. It is an unstable situation which requires some very strong positive input in order to turn it around.

You may note I have not spoken of energy-related manpower, energy-related faculties, and this is very deliberate because the two are inseparable. Energy is the business of engineers.

Senator JOHNSTON. Let me ask you this, Dr. Lear. This $5 million is in the budget and you are, in effect, speaking of and supporting what is in the budget; is that correct?

Mr. LEAR. I am speaking in favor of $5 million. There is $1 million in the budget for these traineeships.

Senator JOHNSTON. That is going to initiate the program. And you understand that when you get a new program initiated in fiscal year 1982, you are doing pretty well. There are a lot of programs being terminated. John Deutsch was very strong on this program, as you know, when he was the Under Secretary of Energy.

We are quite familiar with this program and it is a good one. Mr. Deutsch used to lobby me on this all the time and he has just about converted me, I think.

Mr. LEAR. I am delighted to hear that.

Senator JOHNSTON. I recognize that we do need engineering Ph. D.'s. Too bad we can't give you some of the American history and literature Ph. D.'s. We probably have too many of them, at least too many to be absorbed into excellent teaching positions. On the other hand, you are short in the engineering world, and that is one of the great challenges of the reindustrialization of America— to get top-quality engineers back on line.

This million dollars would at least get you started. We will scrounge around and see if we can find you a few more dollars. I think $5 million is going to be pretty tough, frankly.

Mr. LEAR. I recognize that. We were just suggesting a reasonable catalyst to get the rest of the industry into the picture.

Senator JOHNSTON. If you can just keep the million to get the program started, that is pretty good progress in fiscal year 1982. So we will do the best we can for you, Dr. Lear, and we will put your entire statement in the record.

Thank you very much.

Is there anything else you would like to add?

Mr. LEAR. No; I will defer any other comments about the university energy-related research to the Department. We will just hope this commitment will continue in the long-term future of the Nation.

[The statement follows:]

STATEMENT OF W. EDWARD LEAR, EXECUTIVE DIRECTOR, AMERICAN SOCIETY FOR ENGINEERING EDUCATION

My name is W. Edward Lear, and I am the Executive Director of the American Society for Engineering Education. The society which I represent has individual and instutional membership consisting of virtually all of the engineering colleges in the United States, the majority of the faculty members of those colleges, and a large number of the major corporations of the nation which are technologically-based and therefore have a strong stake in engineering education. I am also representing today in addition to ASEE the National Association of State Universities and Land Grant Colleges, the Association of American Universities, and the Council of Graduate Schools. Among them, these organizations have a membership of approximately 400 public and private universities which are the source of essentially all of the engineering and scientific manpower (and woman-power) of the nation.

Mr. Chairman and distinguished members of the Subcommittee, I am pleased to have this opportunity to discuss with you two issues related to the appropriation for the Department of Energy. First I shall present some facts about the precarious engineering manpower situation of the nation and suggest the role which the Department of Energy can play in providing a piece of the solution to what has come to be widely recognized as "the crisis in engineering education". I should also like to speak to the critical importance to the nation of a continuing, stable commitment to DOE support of energy-related research in the universities.

The engineering manpower situation, although complex in its origins, is simply stated: Unless strong corrective measures are taken quickly by both the public and private sectors to reverse current trends, our engineering colleges will not be able to supply graduates in either the quantity or quality to meet the future industrial and defense needs of the nation.

The implications of such a result are obvious. The very knowledgeable members of this Subcommittee are well aware of the direct connection between strong technological and scientific capability and the productivity and innovation which allow industry to compete in the world market and the military to maintain a sophisticated modern defense capability.

The problems in engineering education which have been accurately labled a crisis have been documented in a number of recent studies, among them the report to President Carter from the National Science Foundation and the Office of Education on the state of engineering and science education in the United States. Each study shows that for the engineering colleges there is severe overcrowding of generally antiquated undergraduate classroom and laboratory facilities, laboratory equipment which is both inadequate and obselete, a pool of available new faculty which is far too small to supply current needs, and faculty leaving for the more attractive salaries of industry. These problems interact with other forces in the following way to place in jeopardy the future supply of engineering graduates:

(1) Undergraduate engineering enrollment in the U.S. is at an all-time high resulting in excessive faculty loads and overcrowded facilities. In 1980, 59,000 B.S. degrees were awarded, compared to 38,000 four years earlier. (As an aside, this represents 6% of all bachelor's degrees awarded in U.S. universities. Comparable figures in Japan, West Germany, and eastern Europe are 21%, 37%, and 42%, respectively.)

(2) Competition for these graduates among industry and government employers is keen. Starting salaries are in the $25,000/year range for some disciplines. The fresh graduate frequently commands a higher salary than some of his PhD-trained professors.

(3) The number of U.S. engineering students continuing to graduate study has declined steadily for the past several years, primarily due to the high salaries available to B.S. graduates compared to typical graduate student stipends of $4,000 - $8,000.

(4) Engineering PhD production in the nation was 2,700 in 1980, down 1,000 from the 1972 figure. Of the 2,700 graduates, roughly 1,000 are foreign nationals, the majority of whom return to their native countries. Among the remaining U.S. citizens, 63% typically take jobs in industry or government, leaving 600-700 available for university faculty positions.

(5) High undergraduate enrollments plus normal attrition in faculty ranks have resulted in 2,000 open faculty positions in U.S. engineering colleges today.

(6) Unable to fill faculty positions, engineering colleges in increasing numbers are moving to limit or decrease enrollments to insure quality education.

(7) Limited and decreased enrollments result in even keener competition for B.S. graduates, further decreasing the attractiveness of graduate study for the students.

(8) The cycle continues.

We have what is clearly an unstable situation calling for fast corrective action if disaster is to be averted in our engineering manpower supply. I should like to make it clear that although I have not spoken specifically of engineering manpower with energy expertise in focusing on the general shortage of engineering faculty which is leading toward a shortage of B.S. graduates, the two are inseparable. Energy is the business of engineers and a shortage of engineering manpower at whatever level is ~~a shortage of technical manpower~~ for the solution of energy problems.

An obvious key point of attack on the problem is to increase the number of engineering B.S. graduates who continue their studies toward the PhD, thus increasing the pool of people with advanced training available not only for faculty positions, but also for the needs of industry and government. Here the Congress has the opportunity -- and also the obligation, given the importance of this issue to the economic and defense strengths of the nation -- to take through the Department of Energy appropriation a small but very important step in correcting the current situation.

In the budget recommended for the Department by the Administration is a $1 million line-item for the support of energy related graduate traineeships in engineering. This is a scaled-down version of the $5 million authorization for this purpose by the Congress during the past session. We urge that the program be initiated at the $5 million figure at a minimum to insure a reasonable federal seed-money impact on this national problem.

Given the current backlog of open faculty positions and normal annual replacement needs, a conservative estimate is that it will require the production of 1,000 new engineering PhD's per year (which would return us to the 1972 level) to eliminate the shortfall over the next several years. A $5 million traineeship program will allow approximately 250 new students to begin study toward the PhD this year, assuming a $12,000 first-year stipend which will make graduate study a more attractive alternative, plus an $8,000 per student cost-of-education allowance to the institution.

It is apparent that the recommended support for 250 new graduated students per year will not alone solve the problem. This is a severe national problem requiring national attention, but with no more federal government intervention than is appropriate or necessary. The universities, industry, state governments, and private giving all must become partners in the problem solution. However, federal support should play the role of catalyst when it is in the national interest to do so. The allocation of the relatively small amount of seed money proposed can serve as leverage by calling attention to the problem and the need for substantial support from the other sectors; in fact, I feel personally that it would be perfectly appropriate to make federal funding after the third year contingent upon a matching effort by the industrial sector. It should be noted, incidentally, that the federal government has a much higher than usual direct stake in insuring an orderly solution to the engineering manpower problem, since the government itself is a large employer of engineers at all levels. The defense establishment, for example, today needs engineers and advanced engineering concepts on a large scale.

In recognition of our engineering manpower difficulties the private sector is already moving to establish mechanisms to allow it to pick up a share of the load. Several working groups with industry/university-membership are exploring their mutual responsibilities in providing the support required to alleviate the current crisis. One of these is the Engineering Manpower Taskforce of the Business-Higher Education Forum, a group of thirty major corporate chief executives and an equal number of university presidents, organized by the American Council on Education. Another, the ad hoc Committee on Engineering Education, was organized by a group responsible for the manpower needs of several of the nation's leading employers of engineering talent. I feel that there is every reason to be optimistic that industry is going to be responsive to its obligation.

Let me now turn to another vitally important element of the appropriation for the Department of Energy. That is the need for a continued commitment to the support of energy research in the universities through the University Research Support Program and the Basic Energy Sciences, High Energy Physics and Nuclear Physics Programs of DOE through which university faculty and graduate student expertise in brought to bear on energy problems. Such support is not only a major part of the life blood of the graduate programs which must supply the requirements of industry, universities and government for highly-skilled energy experts, but is a prime element in assuring U.S. energy independence and long-term leadership in energy resource development.

The approach through university research to the marketplace has proved itself time and again in recent decades as the major source of scientific and technological developments of extreme importance to the personal, economic and defense health of the nation. It is important that we remember this lesson as we consider the imperative requirements of the nation to meet our energy needs, find new ways to increase our industrial productivity, strengthen our defense, and address other pressing problems. We would therefore urge the Subcommittee to consider carefully the adequacy of the recommedations of the Administration for DOE support of university research to insure that our past commitment to a sound investment policy is sustained and that the current rush toward budgetary retrenchment does not produce sudden and disruptive changes in our national research effort.

Mr. Chairman, members of the Subcommittee, thank you for allowing me this opportunity to explore these important issues with you. I shall be pleased to respond to any questions which you may have.

Georgetown Education National Exemplar Photovoltaic Facility

STATEMENT OF REV. FATHER GEORGE, ASSISTANT TO THE PRESIDENT, GEORGETOWN UNIVERSITY

Senator JOHNSTON. Next, we want to welcome our good friends Father Collins and Father George. I don't see Father Collins here, but I do see Father George, who is part-time at Georgetown and whose real avocation is a hunter. [Laughter.]

Father GEORGE. Would you believe that when I was walking over toward the hospital, I saw about 30 swallows flying over the tower? It was beautiful.

Senator JOHNSTON. Did you have your shotgun handy?

Father GEORGE. I think that is quite illegal. I would have been tempted if I had it.

But Father Collins managed to pull a muscle in his back so he can't be present today. He sends his regards.

Senator JOHNSTON. Pulled a muscle—doing what?

Father GEORGE. Probably lifting a boat to go fishing down on the Eastern Shore.

I am Father George, assistant to the president of Georgetown, and I would like to give a brief report and submit my statement, which is also a very brief report, for the record.

Our project has been scheduled and the photovoltaic exemplar project is ready to be seen. It is imposing in architecture, it is beautiful. The industry has done pretty much what we thought it would do. We have a list of offerors who will be bidding on the contract and it is quite an impressive list, and we have gotten the industry to move into the photovoltaic industry in preparing the phototype factors.

We would ask the committee to provide the funds needed for the project in both the fiscal 1981 supplemental and fiscal 1982 appropriations bills. Of the $10 million toward the project, we have spent $4.6 million and $5.4 million is still needed. The university, through its own resources, will provide matching funds for the project, and I would like to thank the committee for its support last year and hope that it will continue its interest this year.

I thank you, Mr. Chairman.

Senator JOHNSTON. Father George, we are quite familiar with this project. You have gone in good faith and invested a great deal of money at Georgetown in the project. It is well underway and ahead of schedule. I think this committee and this Congress would be breaking faith with Georgetown if we didn't furnish the effort and provide the other $5.4 million.

There is no reason why this should be caught in the budget-cutting rescission mania, and we will do our dead-level best here to be sure that you get your money, and that you get it on time. It is one thing to cut back the budget; it is another thing to pull back on an obligation validly made in this Congress, and I consider this to be an obligation of this Congress and of this Government to you.

I think it would be an outrage to take the money away. So I think we will see that you get your money.

Father GEORGE. Thank you, Senator.

[The statement follows:]

Statement of Frs. T. Byron Collins, S.J., and William L. George, S.J., Special Assistants to the President, Georgetown University

Mr. Chairman and Members of this Committee, we are Frs. T. Byron Collins, S.J. and William L. George, S.J., Special Assistants to the President of Georgetown University.

We thank you for your past support of the Higher Education National Exemplar Photovoltaic Facility Program.

This Photovoltaic Exemplar will demonstrate that college and university academic facilities can use sunlight on the properly designed academic buildings to produce electricity in an economical manner. The project is underway and approximately 50% complete. (Exhibit 1)

The building structural components that are in place is shown on the attached photograph. On the roof surface, there will be a photovoltaic flat plate water-proof roof mounted.

The program is to have the manufacturers get into mass production of photovoltaic modules. This takes a research program and puts it on the market. We point out that twelve major manufactures (Exhibit 2) are preparing to do this at their own cost and submit bids for the project. Total estimates of their own funds in producing the modules is between $4 - $8 million dollars. This is in accordance with our agreement to get mass production started of photovoltaic plate roofs for academic facilities.

In accordance with the DOE grant (attached), we request the Committee's support for continued funding in FY'82 to complete the project.

We have received $4.6 million dollars. We request the final funding of $5.4 million dollars for a total grant of $10 million.

Georgetown is providing more than $15,000,000 from other sources toward this exemplar project.

OFFERORS LIST

National Exemplar Photovoltaic Program
Georgetown University

1. Stone & Webster Engineering Corp.
   245 Summer Street, Boston, Mass.
   P.O. Box 2325, Boston, Mass. 02107

2. Solar Power Corporation
   Affiliate of Exxon Corp, with subcontractors:
   - The Architects Collaborative
   - Stone and Webster

   20 Cabot Road
   Woburn, Mass. 01801

3. Solarex Corp., with subcontractors:
   - Monegon
   - Burt, Hill and Associates
   - Mueller Associates
   - Potomac Electric Power Company

   1335 Piccard Drive
   Rockville, Maryland 20850

4. Mobil Tyco Solar Energy Corp.
   with subcontractor:
   - Solar Design Associates, Lincoln, Mass.

   16 Hickory Drive
   Waltham, Mass. 02153

5. Helionetics, Inc.
   with subcontractor

   17312 Eastman Street
   Irvine, Ca. 92714

7. Westinghouse Electric Corp.
   with subcontractors:
   - Burt, Hill & Associates

   Power Systems Co., Advanced
   Energy Div., P.O. Box 10864
   Pittsburgh, PA 15234

8. BDM Corporation, with subcontractor:

   - ARCO Solar

   1801 Randolph Road, S.E.
   Albuquerque, N.M.

9. Facilities Systems Engineering
   Corp. (FSEC), with subcontractor:

   2305 Utah Avenue
   El Segundo, CA 90245

10. ARCO Solar, Inc., with subcontractors:

    - Ford Bacon Davis, UTAH, Inc.
      Salt Lake City, Utah

    - Super Sky Products, Inc.

    - Antione-Heitmann, Assoc.

    Alternates:
    - Black & Veatch
    - Kawneer Company
    - Antoinine-Heitmann, Assoc.

6. General Electric Company
with subcontractors:
o Solec International, Inc. Hawthorne, Ca.
Acquisition: Great Western Silicon

Advanced Energy Programs Dept.
P.O. Box 8661, Philadelphia, Pa. 19101

20554 Plummer Street
Chatsworth, CA 91311

11. Hughes Aircraft
Support Systems/Areospace GPS

P.O. Box 90515
Los Angeles, CA 90009

12. Motorola, Inc.
Motorola Semiconductor Group

MD-A110 52nd McDowell
Phoenix, Arizona 85008

PART I - BUDGET PLAN

Grantee: Georgetown University
Grant No.: DE-FG05-80CS83014
Amendment No. A002

TASK I - PHOTOVOLTAIC HIGHER EDUCATION EXEMPLAR

The total estimated cost of the Academic Center (AC) is $17,680,000, of which the Department of Energy support will not exceed $4,000,000. The total DOE current funding obligation for Task I is $4,000,000. The proposed cash flow for the IC is incorporated in the basic grant document.

Drawdowns under the DOE Letter of Credit will be based on the Cash Flow Statement. When disbursements by G.U. vary for the projected cash flow, such drawdowns to cover actual disbursements will be prorated on the basis outlined in the Cash Flow Plan.

TASK II - PHOTOVOLTAIC SYSTEM

The total estimated cost of the Photovoltaic System to be installed on/into the Georgetown University Academic Center is $6,000,000. It is planned that the DOE support will be incrementally funded, $600,000 - FY 1981, $3,050,000 - FY 1982, and $2,350,000 - FY 1983.

Notwithstanding the total DOE support of $6,000,000, the current DOE obligation of funds for Task II is $600,000. The Grantee understands that notwithstanding the inclusion of $6,000,000 as the total estimated cost for this Task II, the Government is not obligated to pay beyond the $600,000 obligated herein.

Drawdowns under the LOC for this task will be based on actual reimbursement billings on hand. Drawdowns for payments under a fixed-price contract will be based on percentage of work completed and/or progress payments.

Budget - Photovaltaic System

1. Technical Consultant Subcontracts	$ 307,903.00
2. Management	92,097.00
3. Photovaltaic System Subcontracts	5,600,000.00
Total Task II	$6,000,000.00

The total estimated DOE support for Tasks I and II is $10,000,000. The total current DOE funding obligation for the two tasks is $4,600,000.

Council of Energy Resource Tribes Program

STATEMENT OF ED GABRIEL, EXECUTIVE DIRECTOR, COUNCIL OF ENERGY RESOURCE TRIBES

Senator JOHNSTON. While Father George and I are chatting here for a second, I would like to welcome Ed Gabriel, executive director of the Council of Energy Resource Tribes.

Please proceed.

Mr. GABRIEL. Thank you, Mr. Chairman.

My name is Edward Gabriel and I am executive director of the Council of Energy Resource Tribes.

Maybe I should begin by explaining what the Council of Energy Resource Tribes is. It is an organization which the tribes formed about 5 years ago, 26 tribes now, to help manage their resources in a prudent and manageable way.

To my left is Ted Smith, the director for technical units in Denver, and to my right is Lucille Echohaw, the head of our policy group.

I would like to thank you for allowing us to testify today on the appropriations, energy appropriations.

INDIAN ENERGY RESOURCES

As you probably know, Senator, the tribes own a substantial portion of the resources in this country, about a third of the coal left in Mississippi, about 4 percent of its oil and gas, and about 40 percent of the uranium reserves in the whole country.

Senator JOHNSTON. How much of the oil, 4 percent?

Mr. GABRIEL. About 4 percent. That is including Alaska, and it translates into about 15 percent of the total coal reserves in the country.

Today, the tribes are producing approximately 1 million barrels of oil equivalent a day. That is a jump, a doubling in production over the last 2 years. Two years ago they were just producing about 500,000 barrels of oil a day. Certain estimates are in the next year to 2 years we could put an additional quarter million barrels of new oil equivalent on line by the tribes. The tribes could actually do this under projects that they now are contemplating.

I think this is a substantial contribution to energy independence in this country.

BUDGET IMPACT

Senator JOHNSTON. Well, it certainly is, Mr. Gabriel. Let me say that I think the administration has zeroed this program out for fiscal year 1982.

Mr. GABRIEL. That is right.

Senator JOHNSTON. Now, how would you answer the argument that if you are producing 1 million barrels a day of oil equivalents, that that translates into an enormous amount of money and that there is plenty of incentive to do this with the tribe's own money, to hire their own people to do this, rather than have it as a separate Federal budgetary item.

Mr. GABRIEL. Well, the tribes aren't much different than the tribes that you deal with in your own State, sir, in the sense that the cash flow to them is very minor. I pointed out one example in the testimony, that in deals in the past, tribes were getting about 17 cents a ton for coal. They are not getting the true benefits of development. As a matter of fact, because of that they are now ceasing development.

Senator JOHNSTON. Why do they get so little?

Mr. GABRIEL. Negotiations by the Bureau of Indian Affairs on behalf of them for the last 100 years.

Senator JOHNSTON. These are under long-term contracts already made.

Mr. GABRIEL. In perpetuity, until the resources are gone.

Their only change is to develop the resource in their own economic base. They do not have a lot of other natural resources available or potential for economic development, so they don't have the cash flow. They don't have the bonding capability, they can't float tax-exempt bonds; they are exempted from that. They don't have the tax base that States and other entities have. So, we basically are concerned with a very weak economic structure on reservations, other than the potential to develop the resources.

The real point that we are trying to make is that with Federal help in the last 2 years we have seen tribes develop more, and I think that is good for the country; and second, they have attained much more revenue to themselves to plug back into the economic structure and, hopefully, we would like to see less reliance on the funding by the Federal Government in the years ahead. I don't need to tell you they are taking a great deal of money in Federal welfare payments now and other transfer payment. The tribes that are in CERT represent half of the Indian population. That is a real challenge, I think, to this administration, and to all of us here, to really try to see that the tribes can make it on their own through their own development.

A couple last points I would make would be that, as you know, the budget has been zeroed out. I think it was zeroed out just across the board. We would like to emphasize to this committee that we think it is a few million dollars well spent that actually has a 1-to-1 ratio in terms of putting energy on line and helping a subgroup of our population help themselves. I think that is the most important message I would like to leave you with.

Really, I will stop there because that is the major message.

I would like to offer our assistance in working with this committee to present further arguments or discussions.

Senator JOHNSTON. Very good.

Thank you very much, Mr. Gabriel. We will do the best we can.

I think there is a case to be made. It is tough to make with Dave Stockman, they call him the "Grim Reaper" around here. So we will convey your concerns to the committee. I can't make any great promises because of the budget-cutting mania, but I do think there is a case to be made.

PREPARED STATEMENT

Your full statement, of course, will be in the record and will be carefully reviewed.

Mr. GABRIEL. Thank you, sir.

[The statement follows:]

STATEMENT OF EDWARD M. GABRIEL, EXECUTIVE DIRECTOR, COUNCIL OF ENERGY RESOURCE TRIBES

I appreciate the opportunity to appear before this Committee on behalf of the Council of Energy Resource Tribes (CERT), a non-profit coalition of 26 American Indian tribes with energy resources. I know that during the course of these hearings you are hearing many diverse viewpoints on the Department of Energy's budget, but I believe that the topic which I have come here to discuss is one which some of you may not be fully aware - the role of the American Indian in national energy policy.

Indian tribes own a substantial portion of the nation's energy resources. The tribes belonging to CERT own one-third of the strippable coal in the West, roughly 4 to 5 percent of the country's onshore oil and gas resources, some 40 percent of all privately owned uranium, and substantial quantities of oil shale, hydroelectric and geothermal resources These tribes established CERT in 1975 in recognition of the great potential for using these resources as a base for economic development on their reservations, provided that they were developed with sound management practices and appropriate technical assistance. Substantial development progress has been made - over the past fiscal year production on CERT tribal lands has grown to a production level of nearly a million barrels per day of oil equivalent energy.

But this is only the beginning. Projects currently underway by these tribes have the potential to provide an additional 150 to 250 thousand barrels per day of energy over the next three years. And, the outlook over the next ten to fifteen years shows that new production on Indian land could hit three million barrels of oil per day equivalent energy.

This Committee should know that this progress is being made possible only because of much needed federal assistance - very modest technical and financial assistance, provided with a minimal need for bureaucracy, designed to enable the tribes to better manage their own energy development. The total amount of DOE's current budget for FY '81 dedicated specifically to providing technical assistance to the tribes is $1.1 million. Additional funds were made available to certain tribes last year through DOE's alternative fuels and fossil energy programs to carry out project evaluations. I will discuss the need for funding for these studies shortly.

This money is being put to use right now by the tribes to carry out actual production activities aimed at bringing new energy production on line. These expenditures are for products that will produce new domestic energy in the near term. It is not money spent for research and development efforts or abstract studies which by themselves do not result in one drop of new energy for the nation. Given this situation, the relatively small portion of DOE's budget used by the tribes can hardly be considered a waste of the taxpayer's money, or an undue strain on the Federal budget.

It is our understanding that President Reagan has proposed to rescind a substantial portion of the FY '81 appropriations for Indian programs, and to eliminate Indian programs altogether from DOE's budget for the next fiscal year. Let me emphasize, however, that we have received assurances from the Administration that the intent is not to drop support for the energy owning tribes; rather, funding could be channeled to them through other components of DOE's budget. Based on these assurances, I have not come to criticize the Administration's decision to eliminate budget authority for Indian programs outside of DOE's regular program structure. Rather, I am here today to stress the need for funding for these purposes by whatever means is considered the most effective. I am concerned that in the haste to cut the bulging Federal deficit, which all of us recognize must be done, the small amount of funding needed for Indian energy development may fall by the wayside out of a misunderstanding of its full significance. I hope that my appearance may help to assure that this does not happen during this Committee's deliberations.

In the past there has been an inequitable, and frankly irrational, approach to the allocation of Federal funding for Indian energy development. Tribes are the largest non-federal owners of energy resources in the country, and have demonstrated their willingness to develop these resources. This is evidenced by their substantial current and planned production which I have already described. In fact, in terms of energy produced per dollar spent, Indian energy funding has proven to be one of the most cost-effective federal energy programs. But the enormous potential of their resources is not anywhere near full realization because the tribes have not received the necessary support needed to overcome the huge obstacles standing in their way.

Perhaps the most serious obstacle is financing. Tribal needs are unique in the energy business: they are not asking the government to subsidize projects that the private sector is unwilling to finance. They know that their projects would be marketable -- if they had the up-front capital to prepare the development plans that the private sector will need to finance the package. Tribes lack the working capital or equity to prepare these plans for several reasons. Given the abject proverty of all Indian reservations, the tribes do not have a tax base from which to generate funds. Historically, tribes have not had access to capital markets for their public facilities, which means that they have no bond or credit rating. Finally, the few tribes that have developed their natural resources have gotten little in return, and what they did earn has been earmarked for essential governmental services. Without funds to demonstrate the viability of these projects, the tribes will lose this important opportunity to become self-sufficient and break the unwanted cycle of federal dependence.

In this regard, an excellent example of how federal funds can be applied very cost-effectively toward resolving our energy problems as well as increasing tribal self-sufficiency is being set by the Crow Tribe of Montana. The tribe was awarded funding last year under DOE's alternative fuels program to prepare a project evaluation for a major coal-based synthetic fuels facility. In addition, they were awarded funding to develop an evaluation plan for a 1,000 megawatt coal-fired electric generation plant. Already six utility companies have expressed strong interest in purchasing power produced by this facility, and the power plant could provide electricity for the synfuels facility. Lehman Brothers, one of the largest financial institutions in the nation, is structuring a financial package which will allow for these projects to move forward by drawing funds from the private capital market. Provision of these funds to the Crow Tribe appeared to herald a new era for tribal energy development since it opened the possibility that other tribes with energy resources might be able to obtain up-front funding for planning their own major energy projects. Yet now, with the proposed extinction of DOE's alternative fuels program and major cuts in other DOE commercialization programs, this hope may be shattered unless other means are developed for providing such badly needed project planning funds to the tribes.

In addition to capital problems, tribes face a major development obstacle in that most tribal governments currently lack the capacity to manage large-scale energy development. Tribes have to build this capacity so that they, not the federal government or outside interests, can make decisions about how energy development should proceed on their lands. Too often in the past decisions have been made by the government acting on behalf of the tribes which turned out to be very detrimental to tribal interests. Classic examples are the agreements negotiated by the Bureau of Indian Affairs in the late 1960's to lease coal on Navajo, Northern Cheyenne and Crow lands for $.17 per ton. Such government failures to protect tribal interests amply illustrate the need for local control of energy development, and tribal governments are moving in this direction. Yet for now, these governments are generally not readily equipped to deal fully with energy management responsibilities.

Finally, tribes currently lack technical abilities in a number of areas critical to energy development, including engineering, geology, economics and environmental and land use planning. As I stated earlier, technical assistance in these areas has been a major priority in the DOE Indian programs budget, and to a large degree has resulted in the recent increase in tribal energy ventures. An integral element of this assistance is training in energy disciplines and skills to enable tribes to become less dependent on federal assistance in these areas as their own expertise expands.

So this is my message today: with a small amount of Federal funding now, tribes can assist our nation in making major increases in domestic energy production in the very near future. Without such support, tribes will not be able to overcome the obstacles to increased production and will not produce. Based on my experience, I would advocate funding specifically for technical assistance for tribal energy projects at levels commensurate with the tribes' abilities and potential to develop new energy reserves in this country. This would be a very modest budget item. In addition, expansion of activities eligible for funding in key program areas of DOE's budget, to include Indian energy activities and set asides for tribal purposes would greatly help tribes in obtaining funds for vitally needed project evaluations. These program areas include fossil energy, conservation and renewable energy, nuclear energy and environmental programs.

I would also like to leave you with one final observation. For over 100 years the tribes have had to be dependent on the federal government, with little hope of attaining any real degree of self-determination. How seriously are we committed to President Reagan's commitment and priority emphasis on Indian self-sufficiency, less reliance on the federal government and sound energy policy which actually puts new domestic energy resources on line? I believe that if we are serious, we will quickly realize the cost-effectiveness and worthiness of the needs and programs described here today. Injection of a small amount of Federal money now - and I emphasize that it _is_ small - can go a long way toward breaking this dependency permanently as well as provide the nation with badly-needed energy. Are we really saving anything by cutting off this funding for production activities now, with the result that the government will continue to pay out for Indian welfare programs indefinitely? I don't think that we are, and I am confident that after carefully examining this question you will not either.

I will now answer any questions you may have.

STATEMENT OF JOHN CONWAY, PRESIDENT, AMERICAN NUCLEAR ENERGY COUNCIL

ACCOMPANIED BY TOM McKEOWN, VICE PRESIDENT, KMS FUSION, INC.

Senator JOHNSTON. Next, we would like to welcome our good friend, John Conway, who is president of the American Nuclear Energy Council.

Mr. CONWAY. Mr. Chairman, I will take advantage of your offer to accept my statement as if read and I will be very, very brief.

NUCLEAR POWERPLANT LICENSING DELAYS

I want to thank your subcommittee and the full committee last year in the appropriations bill for a requirement that the NRC, in its appropriations, had to make reports to the Congress, particularly to the Appropriations Committees, on the delays on licensing.

We find that to be one of the major problems today, the delays in getting nuclear plants on line and, of course, this is adding to inflation of the Nation and, obviously, we have to use more imported oil because of those delays. But I do thank this committee and other committees of Congress that are zeroing in on that problem.

FUNDING FOR NUCLEAR ENERGY PROGRAMS

Mr. Chairman, I attempt, in my prepared statement, to put the level of funding for nuclear energy in proper perspective. As you will note from the attached table appended to my written statement, I have shown that under the past administration we have seen major cutbacks in the nuclear program, and when you take into consideration the inflationary effects, we see a major cutback during the last 4 to 5 years in support for nuclear.

Also, those that would criticize the nuclear budget as being disproportionate with other energy needs, I would call attention that more often than not they throw in all the nuclear support that goes to our military, military weapons, and the naval program. Both are important programs, but I suggest to your committee, enthusiasm belies the fact that nuclear power should not have to carry with it the necessary funding for the military program.

Both are necessary, both are desirable. And with that I will complete my oral testimony, Mr. Chairman, and let my prepared statement go into the record.

Senator JOHNSTON. Have you looked at the NRC interim licensing bill just submitted a few days ago?

INTERIM WASTE STORAGE

Mr. CONWAY. Yes, sir, we looked over it, studied it very carefully. We think it is very important legislation. We may have suggested some minor technical modifications, but it is a very, very necessary piece of legislation. It is my understanding that the industry and the full Commission, I presume full Commission, but at least a majority of the Commissioners, feel that it is necessary to move ahead with licensing.

Senator JOHNSTON. DOE testified here the other day and we asked them about the failure to include anything for AFR's and they had a complicated answer which boiled down to the fact that they didn't have any plans for interim storage, that they figured that private industry would take care of it.

Mr. CONWAY. Well, President Carter made a decision to stop reprocessing.

The industry was moving ahead very rapidly in developing some reprocessing capability. When the decision was made by the Federal Government unilaterally to prohibit reprocessing, that suddenly changed the whole focus of the industry. No longer would we be in a position to have your fuel elements reprocessed. Carter, himself, recognized this and came out and said that the Federal Government would move ahead with Federal AFR storage somewhere in the neighborhood of $300 million to relieve the industry of this problem the Government had, in fact, caused.

However, from the very beginning, both in the Carter administration and from the nuclear industry point of view, it was clearly understood that that was only money up front, that the industry would pay the full cost of recovery of that project. So that in the long run it was the industry and obviously the consumers of electricity in the industry that would pay for it, and not the taxpayers of the United States.

So we would strongly support a Federal AFR, with a clear understanding that the services performed by the AFR, those utilizing the services would pay the full cost of that, or reasonable cost.

Senator JOHNSTON. Well, what happens if the Government doesn't build an AFR?

Mr. CONWAY. Obviously, the industry will be looking for expansion out at the individual utility sites in an effort to try to have someplace to put the spent fuel elements. There is a tremendous amount of acids in these spent fuels because a great deal of the uranium can be utilized once it goes through processing.

In fact, the enrichment in the spent fuel element, the uranium 235, is in a richer form than when we get it out of the ground in its natural state.

So there is no question in my mind the energy that is tied up in the spent fuel elements will, in the years to come, be utilized by the industry to the advantage of the public.

Senator JOHNSTON. What I am getting at is, last year DOE submitted figures to us which show that by 1984 the on-site storage facilities would be full and you begin to have to start shutting down reactors at that time.

Mr. CONWAY. The most recent studies that I have seen, and I haven't seen the most recent study by the DOE, I understand its in the draft statements, I think it is somewhere in the order of 1988–89, but I would have to verify that.

There has been a slowdown in the licensing of plants as I mentioned earlier, and the fact that post-Three Mile Island a number of the plants were shut down and are being shut down for periods of time as they make certain engineering changes and so forth, with lessons learned from Three Mile Island.

So a number of plants have not operated to full capacity as they had previously done.

For example, I think in 1978, 13 percent of all energy, electric energy in this country came from nuclear. This past year, it is somewhere in the order of 11 percent. Part of this is because the plants have not been operating at full capacity as they backed down a bit and went into extended outages to make engineering changes.

Senator JOHNSTON. What you are telling me is we have time to solve the problem?

Mr. CONWAY. We have a little more time but, obviously, time keeps slipping away from us. So I would say it is not as pressing as it appeared to be 2 years ago, I guess, but it is still a problem hanging over the heads of the various utilities in the country. One of the problems I have, if you try to expand their current capability of storing nuclear fuel, they have to get an amendment to their license. In a recent court case, any amendment to a license automatically has to have a hearing, and you find many of the opponents of nuclear power that are opposing AFR and claim that the utilities should be responsible to take care of the spent fuel elements.

These same people come in and then oppose the granting of a license for the expansion of that capability.

Senator JOHNSTON. We ought to require them to be elected.

Mr. CONWAY. If I may indulge the Chair one more second, the two medical doctors that were speaking on the medical isotopes, that sounds like a fascinating program.

As they were leaving, I asked them what was the radiation dosage from that. It is 200 millirems. That is not significant at all, but it is significantly more than anybody could have gotten at Three Mile Island.

The maximum that anyone could have gotten has been calculated at 80 millirems. That person would have had to spend 4 days completely stark naked standing at a certain place outside the plant to have gotten that maximum dosage, and even that would have been much, much less than one would get in that medical program, which I think is very important and very helpful to the patient.

Thank you, sir.

Senator JOHNSTON. We will call CBS News and give them that and see if they will run it. [Laughter.]

Thank you very much, Mr. Conway, we appreciate your testimony.

[The statement follows:]

STATEMENT OF JOHN T. CONWAY, PRESIDENT, AMERICAN NUCLEAR ENERGY COUNCIL

Mr. Chairman and Subcommittee Members, I am John T. Conway, President of the American Nuclear Energy Council, and I am pleased to return before you to discuss the nuclear industry's view of the DoE FY82 Nuclear Budget.

I. The Need for Nuclear Power

As of March 1981, there are 71 civilian nuclear power plants in operation in the United States with a capacity of about 53,000 MW(e). In addition, two plants, 1000 MW(e) each, are licensed for low power testing; 82 plants, 91,000 MW(e), are under construction; and 11 plants, 14,000 MW(e), are under construction review. In total, this amounts to 166 plants representing approximately 160,000 MW(e).[1]

Nuclear power is currently producing 11 percent of the Nation's electrical requirements. This contribution will dramatically increase as nuclear power plants currently being constructed are brought into commercial operation. By 1989, nuclear power plants should be producing 26 percent of the Nation's electricity. Beyond 1990, nuclear's contribution increases to over 30 percent by the year 2000, depending on assumptions related to economic and energy growth.

The contribution of nuclear power to the reduction of U.S. foreign oil dependence cannot be overlooked. Last year nuclear power provided the equivalent of 1.3 million barrels per day of oil equivalent (bde). This generation is roughly the energy equivalent to the current Alaskan oil production level and is also equivalent to our total imports from Saudi Arabia. To establish a reference point, it should be noted that the 1973-1974 Arab oil embargo resulted in the loss of less than 500,000 barrels of oil per day, but it put over one million people out of work and cost some $40 billion in the gross national product. Each new 1000 MW(e) reactor in commercial service will additionally offset the equivalent of 30,000 barrels per day (bde). If the 93 plants under construction or on order are completed during this decade, the nuclear contribution is expected to be 4 to 4.5 million barrels of oil per day of oil equivalent (bde).

However, even with the planned capacity additions, both coal and nuclear, the Electric Power Research Institute[2] projects shortfalls in electrical capacity in the year 2000 by about 100 gigawatts (1 gigawatt equals 1000 megawatts or equals approximately one hundred nuclear plants) for both low and intermediate growth projection. This shortfall can only be made up by increased nuclear and coal capacity additions. Whether these additions materialize depends on whether the constraints slowing the growth of nuclear capacity are removed.

II. Impact of Licensing Delays on the U.S. Electrical Generating Capacity

As indicated by the GAO in a study of "Electric Power Plant Cancellation and Delays",[3] the U.S. electric utility industry has cancelled plans for 184 generating units (80 nuclear and 84 coal-fired plants) from 1974 to 1978 -- almost as many units as were put into operation during the same period.

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[1] This data excludes: Dresden 1 - 200 MW(e); Humbolt Bay - 65 MW(e); TMI 2 - 906 MW(e) closed indefinitely; and Indian Point I - 265 MW(e) with decommissioning plans underway.

[2] Electric Power Research Institute "1981-1985 Overview and Strategy" Executive Summary, October 1980.

[3] GAO Report to the Congress of the United States, EMD-81-25, December 1980.

Of the 184 new power plants that were brought on-line between 1974 and 1978, 79 percent of them experienced delays roughly from under 6 months for 41 plants to 3 years or more for 23 plants. Eighty-one percent of the 330 new power plants projected to be completed by the early 1990's have already been delayed an average of 40 months. Average delays for nuclear units are the highest amongst fuel types, averaging 52.7 months of delay per plant.

"Continued cancellations and delays may contribute to increased oil consumption, greater dependence on foreign oil, greater potential for electrical service interruptions and higher electricity rates for consumers", the GAO report found.

In the nuclear area, we have found that the Nuclear Regulatory Commission has become so bogged down in its regulatory process its licensing operations have come to a virtual standstill. For plants scheduled to be brought into commercial operation in 1981-1982:

- construction will have been completed on 13 plants a total of 90 months before operating licenses will be issued;
- the cost increases to utilities and their ratepayers associated with these delays is already between $2 and $3 billion and growing each day. In other words, each month of delay adds $30-40 million to the cost of a typical generating station;
- due to these delays, the electric utilities constructing these plants will, according to DoE, consume 42 million barrels of oil more than they might have otherwise consumed.

We thank the members of this Subcommittee who have joined with other Committees of Congress having jurisdiction over the NRC in voicing their concern about these serious delays.

The impact of rapidly escalating oil costs, the cost of capital and escalating construction costs, exacerbated by licensing delays, have dealt a devastating blow to consumers and to the financial capability of the utility industry. There is no doubt that this is the most serious issue influencing the adequacy, reliability and cost of electric power supply in the 1980's and beyond.

III. Nuclear Power Budget

The Carter Administration virtually brought to a halt work to close the back end of the fuel cycle. From the standpoint of domestic economics, national security and international prestige, the FY82 DoE budget must reflect the recognition that coal and nuclear power are the only economic alternatives for large-scale application in the remainder of the century.

A review of the nuclear budget over the past several years clearly shows that in relation to the overall DoE budget and the funding afforded other energy research, development and demonstration programs, nuclear program funding has declined. According to the Attachment appended to my testimony, the nuclear fission budget has declined by 15.4 percent since 1977 in terms of year of budget dollars. In real terms, taking inflation into account, the reduction of nuclear funding is even more dramatic, amounting to a 42 percent reduction in constant FY81 dollars.

The opponents of nuclear power have adopted the strategy for FY82 of attacking the nuclear energy budget by projecting it as a disproportionate share of the total DoE budget. This is accomplished by adding to the nuclear energy total, funding for military applications, nuclear science applications and the uranium enrichment program. Clearly military and science applications have no bearing on the nuclear energy component. Nor should uranium enrichment program funding be included because the program is operated, as required by law, on a 10-year campaign full-cost recovery basis.

The nuclear energy component of President Reagan's FY82 Budget for DoE amounts to $1,247 million. Even this amount for nuclear funding includes costs incurred by the government for the commercial waste management and spent fuel storage programs which will be returned in the form of fees paid by the utilities for the utilization of such services once the programs have become operational.

The $1,247 million represents only nine percent of the total DoE Budget of $13.7 billion. Moreover, the $288 million increase in funding in the Reagan budget for nuclear research and development over the Carter sumittal was more than offset by a decrease of $355 million in the overall enrichment budget. The Reagan nuclear budget must be maintained and certain programs increased if the downward trend in nuclear program funding is to be turned around and if nuclear power is to contribute its full potential to establishing energy security for the United States.

A number of programs warrant attention. In 1977, when President Carter announced that the reprocessing of spent fuel elements from civilian nuclear plants would be "indefinitely deferred", he automatically caused work on the privately owned Barnwell Reprocessing Facility in South Carolina to come to a standstill. The Allied Chemical and General Atomic companies, that had been encouraged by previous Democratic and Republican Administrations to enter this field, were left "high and dry". Utilities that had expected to ship their spent fuel to such a facility no longer had that option. President Carter recognized the problem his new policy would cause to these utilities and thus he proposed that a federal away-from-reactor (AFR) spent fuel storage facility would be established, the full cost to be borne by the utilities using the facility.

We believe it is important that away-from-reactor spent fuel storage capacity be acquired to aid those utilities whose on-site storage capacity has reached their limits. We also believe that the budget should provide for regional AFR facilities. With respect to the Barnwell Spent Fuel Reprocessing Facility in South Carolina, funds need to be provided to continue the research and development program which could be focused on using Barnwell for AFR storage and reprocessing.

We must push forward with demonstration of a fully closed fuel cycle that includes reprocessing, the Clinch River Breeder Reactor and high-level geologic waste disposal - all under an acceptable level of safeguards and at funding levels that provide for economically viable programs. Additionally, the waste solidification program authorized by the Congress last year at West Valley, New York should be continued.

It is necessary to move rapidly to restructure and complete the Nuclear Regulatory Commission's Generic Environmental Impact Statement on Mixed Oxide Fuel or some other programmatic approach to examining the environmental impacts and establishing standards to deal with the plutonium fuel cycle.

Furthermore, it is critical that the Gas Centrifuge Enrichment Program be funded to maintain its current schedule. This project will utilize only 5 percent of the energy needed to run equivalent capacity of the 40 year old gaseous diffusion facilities and will allow for phasing out of these old, costly facilities.

Work must also continue on programs such as the High Temperature Gas Cooled Reactor to provide an alternative form of nuclear generation. The HTGR-Steam Cycle/Cogeneration system, for example, can generate electricity or process steam at relatively high efficiencies. The HTGR will, we believe, provide an important nuclear heat source for synthetic fuels and industrial process heat production.

Mr. Chairman, this concludes my statement. I thank you for the opportunity to appear before your Subcommittee.

ERDA/DOE TOTAL BUDGET AUTHORITY
(Millions of Dollars)

1977	1978	1979	1980	1981	Inc. Thru. FY81 Year Of Budget Dollars	Constant FY81 Dollars
6,389	10,283	10,799	11,675	13,594	7,205	4,240.5
					112.8%	45.3%

ENERGY RESEARCH, DEVELOPMENT AND DEMONSTRATION

1977	1978	1979	1980	1981	Inc. Thru. FY81 Year Of Budget Dollars	Constant FY81 Dollars
3,010	2,696	3,625	3,730	3,957	947	-449.6
					31.5%	-10.2%

CONSERVATION RESEARCH AND DEVELOPMENT

1977	1978	1979	1980	1981	Inc. Thru. FY81 Year Of Budget Dollars	Constant FY81 Dollars
160.9	692	671	815	817	656.1	581.44
					407.8%	246.8%

FOSSIL ENERGY DEVELOPMENT

1977	1978	1979	1980	1981	Inc. Thru. FY81 Year Of Budget Dollars	Constant FY81 Dollars
					647.8	423.59
483.2	702	791	897	1,131	134.1%	59.9%

SOLAR ENERGY DEVELOPMENT

1977	1978	1979	1980	1981	Inc. Thru. FY81 Year Of Budget Dollars	Constant FY81 Dollars
					285.6	150.9
290.4	303.0	528	602	576	98.3%	35.5%

GEOTHERMAL ENERGY DEVELOPMENT

1977	1978	1979	1980	1981	Inc. Thru. FY81 Year Of Budget Dollars	Constant FY81 Dollars
		130			144.3	64.2
54.7	106		145	199	263.8%	148.4%

NUCLEAR FISSION

1977	1978	1979	1980	1981	Inc. Thru. FY81 Year Of Budget Dollars	Constant FY81 Dollars
					-181.7	730.93
1,183.7	1,062	1,204	1,182	1,002	-15.4%	-42%

FUSION POWER RESEARCH AND DEVELOPMENT

1977	1978	1979	1980	1981	Inc. Thru. FY81 Year Of Budget Dollars	Constant FY81 Dollars
					-21.9	214.9
415.9	325	356	356	394	-5.3%	-35.3%

INERTIAL CONFINEMENT FUSION PROGRAM

STATEMENT OF ALEXANDER GLASS, PRESIDENT, KMS FUSION, INC.

Senator JOHNSTON. Next, we have Dr. Alexander Glass, president of KMS Fusion, Inc.

Dr. GLASS. Mr. Chairman, gentlemen.

I would like to start by thanking you for the opportunity to appear today. I am Alexander Glass; I am president of KMS Fusion.

I have submitted a written statement for the record. I would also, with your permission, like to have my remarks inserted in the record as well.

Senator JOHNSTON. Yes, we will put that in the record as well.

PROGRAM OBJECTIVES

Dr. GLASS. As you know, the objective of inertial fusion is for use in both civil and military operations and at this point in the fusion program the emphasis is on demonstrating the scientific feasibility of various technical approaches to the fusion process. An inertial fusion is distinguished by its technical approach, which is to compress and heat isotopic hydrogen, encapsulate it in a target container, using the energy either from powerful lasers or powerful beams of particles.

KMS Fusion is a private company in Ann Arbor, Mich., and is a pioneer in inertial fusion research, having been in the program from its inception. As early as 1969, KMS was carrying our inertial fusion research on private funding, and in 1974 the first demonstration of a successful inertial fusion experiment was carried out at KMS.

The company has pioneered the use of short wavelength carriers which provide more efficient coupling of the energy of the laser to the target, and also has pioneered the use of cryogenic targets.

Senator JOHNSTON. You do basic R. & D. You are not trying to build a big machine?

Dr. GLASS. That is right, sir. Our function is actually threefold. We do basic R. & D. We supply components, target components to other laboratories in the program, and we also supply on-site support in the target fabrication area to the Sandia Laboratory, and look to expand the on-site support to other laboratories in the program as well.

As you probably know, the history of the inertial fusion, of KMS' role in the inertial fusion program, has not been entirely without controversy.

But I think that it is fair to say that in the last year or two tremendous progress has been made within the inertial fusion program, both technical and administrative, and I would like to briefly summarize some of the advances and the administrative arrangements that have been made.

The technical advances are summarized in my statement and I don't think it is necessary to take the time to go into them here.

In the last year we have come under the leadership of the lead laboratory office which is at the Lawrence Livermore National Laboratory. Lead laboratory management was instituted in the inertial fusion program under the direction of the Assistant Secretary for Defense Programs late in 1979.

DEFENSE-RELATED BENEFITS

Senator JOHNSTON. In a word, how valuable for defense purposes is laser research and fusion?

I don't ask you to go into any detail.

Dr. GLASS. The question is probably better addressed to those people who are outside the laser community who might be more objective.

As I understand it from my experience at the Lawrence Livermore National Laboratory, what laser fusion provides to the defense program is a better understanding of thermonuclear physics, because the process of imploding the laser fusion process is the same as the process of imploding a thermonuclear weapon.

It provides the ability to obtain a better capability to design some nuclear weapons by comparison of large computer codes with experiment, and once ignition is achieved—that is, once you are able to light the thermonuclear burn—then you have the capability of simulating the effects of nuclear and thermonuclear weapons using the X-rays and neutrons which are produced in the inertial fusion enclosure. That would then supplement the work that is presently done in the test program.

Now, along the way there also is information obtained having to do with the equation of state, how materials behave to temperatures and pressure. That does not require successful ignition of the thermonuclear burn, but is best done using lasers.

Those are the three major applications of inertial fusion to the weapons program. When we speak of military applications, those are the applications we have in mind.

Senator JOHNSTON. Well, thank you very much, Dr. Glass. We have not yet received the details of the budget from the administration. There is a cut in laser fusion, as you probably know.

We don't know how it will be distributed. We know about the good work KMS has done; we know about the importance of laser fusion. In my view, we need to keep fusion evenly funded, both magnetic and inertial confinement, not with these big peaks and valleys, and, unfortunately, when you get into budget-cutting mania, fusion is a big fuzzy target, because there are serious dollars involved and it is a long-term commitment.

But we will do the best we can to see KMS is properly funded. We know the good work you do.

Dr. GLASS. I wonder if I might speak to that. First of all, I greatly appreciate the help we received in the past from this committee. But I would also like to speak on behalf of the national program, not simply on behalf of KMS.

We are only a small part of a larger program and our role is one of support within the national program. I think it is of the utmost importance to maintain the momentum throughout this year and into next year and, particularly, I would like to support the large facilities under construction at the Sandia Laboratory and the Lawrence Livermore National Laboratory, without which we can't get a demonstration of ignition, and without a demonstration of ignition, it is very hard to see how we can accomplish the objectives of this program.

Senator JOHNSTON. I think that is correct. Thank you very much Dr. Glass. As I say, we will do the best we can with these scarce dollars.

[The statement follows:]

Statement of Dr. Alexander J. Glass, President, KMS Fusion, Inc.

KMS Fusion, Inc. is a private company in Ann Arbor, Michigan, conducting a program of research in Inertial Confinement Fusion (ICF) under the sponsorship of the U.S. Department of Energy. KMS Fusion employs 134 people and was funded by DOE at a level of $10.5 million in 1981. The company has been an active participant in laser fusion since 1969, and has contributed major achievements in the ICF program. The first thermonuclear neutrons obtained from a laser-driven implosion were observed at KMS Fusion in May, 1974. KMS Fusion was one of the first laboratories in the world to carry out implosion studies using frequency-converted light. The Chroma I laser at KMS Fusion is the most powerful visible-light fusion laser operating today, anywhere in the world.

In 1979, the Assistant Secretary of Energy for Defense Programs instituted lead laboratory management in the ICF program. The Lawrence Livermore National Laboratory(LLNL) was designated Lead Laboratory for 1.06 m and shorter-wavelength target experiments, referred to as Glass Laser Experiments. As one of the U.S. laboratories conducting fusion research with a powerful glass laser, KMS Fusion was designated one of three support laboratories in the Glass Laser Experiments program. Under lead laboratory management, the KMS Fusion activities are fully integrated into the national ICF program. Cooperation with other laboratories, especially LLNL, is fostered under this arrangement. In 1981, experiments were carried out at KMS Fusion by LLNL scientists working jointly with our staff. We plan to expand on our collaboration in 1982. The responsiveness of KMS Fusion to Lead Laboratory management was cited in last year's report of the House Armed Services Committee.

The facilities at KMS Fusion are cleared to allow us to pursue classified investigations. Since one of the major target design approaches in Inertial Confinement Fusion involves classified concepts, the ability to pursue classified research, both experimental and theoretical, greatly enhances our participation in the national program. We are currently embarking on our first series of classified target experiments.

During 1981, the KMS Fusion program places particular emphasis on the development of target fabrication technology, and the maintenance and operation of a flexible experimental facility. The KMS Fusion target fabrication effort is concentrated on improving glass Microshell technology, developing polymeric materials, and evaluating techniques for the manufacture of complex targets, involving both metal and dielectric components. All of these technologies will be required for the next generation of targets used in ICF research, especially on the Nova facility at LINL. KMS Fusion is currently supplying both classified and unclassified target components to the other laboratories in the national program, including LLNL, Los Alamos, Sandia Laboratories, the Naval Research Laboratory, and the University of Rochester. Additionally, we are providing a modest level of on-site support in target fabrication for the Sandia Laboratories, in Albuquerque, New Mexico.

The Chroma I laser generates 2 terawatts (two billion watts) of optical power at the infrared wavelength of 1.05 m, and more than four hundred joules of visible light energy at 0.53 m. It is a flexible facility, with two target chambers, one configured for the study of the internal physics of classified targets ("hohlraum physics") at both infrared and visible wavelengths and the other, using a novel optical system developed by KMS Fusion, for the study of directly driven targets under uniform, spherical illumination. Spherically symmetrical illumination closely approximates a one-dimensional geometry, which greatly simplifies the interpretation of experimental data. In 1980 and early 1981 this facility provided new and compelling data regarding the density profile of the plasma surrounding a metal-coated target. These data, taken together with similar data from plane targets to be obtained this year, will provide valuable insight into the internal workings of laser-fusion targets.

KMS Fusion has also developed a unique experimental capability, the ionized gas jet, which allows us to simulate the conditions of a large target, like those proposed for use in ignition experiments, using a laser of limited energy. Preliminary results from recent gas-jet experiments indicate an absence of deleterious plasma physics phenomena in large targets such as will be used on Nova. The stable, well characterized conditions in the gas jet experiments provide an ideal environment for the development of new diagnostic techniques. Joint experiments involving both KMS Fusion and LLNL personnel were carried out in our facility in 1981, to test new spectroscopic probe methods, and are planned to continue.

The gas jet also provides a unique environment for the study of plasma radiation emission and absorption, data of fundamental interest both for ICF and for thermonuclear weapons physics.

KMS Fusion is also evaluating techniques for broadening the spectral width of laser light, a technique proposed to reduce plasma reflectivity, and enhance the absorption of incident laser light in ICF targets.

In 1982, level-of-effort funding will allow these activities to be continued. We would also propose to expand our program to accomplish the following objectives:

(1) To expand our on-site support at the Sandia Laboratories in Albuquerque
(2) To initiate on-site liaison at LLNL, for better coordination of the two target fabrication efforts
(3) To improve our diagnostic capabilities for the Chroma I laser and the experimental facilities
(4) To develop new techniques for characterizing and measuring fusion targets
(5) To modify the low-power section of the Chroma I laser, to provide better beam quality and greater reproducibility, while reducing maintenance costs
(6) To extend our experimental measurements of classified target physics to shorter wave - length, by adding third harmonic (ultraviolet) capability to Chroma I.
(7) To exploit the novel features of the gas-jet experiment for a broader range of measurements on both plasma physics phenomena and spectroscopic studies.

With level-of-effort funding, we could maintain our present capabilities, but would necessarily delay many of our important objectives to subsequent years. Increased funding, beyond the maintenance of a constant level-of-effort, will allow the full exploitation of the resources which exist at KMS Fusion. These resources include a talented and dedicated professional staff, a uniquely flexible experimental facility, and a target fabrication effort dedicated to supporting all the participants in the national program. Any substantive reduction of support below the current level of effort would seriously diminish our capabilities.

We realize that 1982 is a year of fiscal restraint, and that any proposed budget increases must be subject to the closest scrutiny. However, KMS Fusion strongly supports the continuation of full funding for the national ICF program. We are enthusiastic participants in the pursuit of fusion, both for military and energy applications, and we submit that the potential of inertial fusion for these applications cannot be realized without the demonstration of thermonuclear ignition, either in laser-driven or particle-driven implosions. The present KMS Fusion program is structured to support the achievement of the ignition milestone on the Nova laser and the PBFA II particle-beam facility. We hope that adequate funding will be provided to maintain the ICF program's progress toward the completion of these facilities and the demonstration of ignition.

Magnetic Fusion Energy Program

STATEMENT OF MARSHA FREEMAN, WASHINGTON REPRESENTATIVE, FUSION ENERGY FOUNDATION

Senator Johnston. Next, we have Ms. Marsha Freeman, Washington representative, Fusion Energy Foundation.

Ms. Freeman. Thank you very much, Mr. Chairman, for the opportunity to testify today. I would like to request that my written testimony be included in the record.

And I would like to just briefly make a few major points.

The first is on the request in the DOE budget itself for the magnetic fusion program. The DOE request for fiscal year 1982 provides a funding level of $460 million, and the Fusion Energy Foundation is stating to the committee that we feel that the full funding that was mandated in the Fusion Act that the Congress passed last year and the President signed into law, and we figure that was actually also originally in the Carter budget for fiscal year 1982, of $525 million, and should be the appropriation for magnetic fusion for the next fiscal year.

In terms of what you have just stated, I think it is possible that the people will look at this increase in the fusion budget and say that this is a fat target.

I would like, first, to point out something factual, which is that the fusion budget, very similar to Mr. Conway's discussion of the nuclear budget, has been held flat for the last 4 years. And in terms of what dollars will buy, the $525 million level for fiscal year 1982 would actually simply bring the program back to its funding level in 1977. At that time it was $316 million, and if you compute inflation over these 5 fiscal years, $525 million would be needed just to have the program have the capability in terms of scientists and machines that it had in 1977.

In terms of fusion itself, we feel very strongly that the Congress and the President made a commitment to go forward into the engineering phase of fusion development.

Last year, through the passage of the Magnetic Fusion Energy Engineering Act of 1980, we feel that the Congress and the administration, therefore, have a certain faith and commitment that was made that has to be carried forward in the fiscal year and has to be reflected in the budget.

As I state in my written statement, fusion is not simply one of many ultimate energy sources on the horizon. It has very unique national security and economic implications in the development.

Obviously, in terms of providing an energy source it is going to be our most important infinite, cheap, safe electrical power source.

There are many other applications of fusion energy which are not electrical and they are enumerated in the statement. They have the capability to make a tremendous economic impact in terms of materials processing, producing hydrogen as liquid and gaseous fuel, real synthetic fuels, and other areas for industry and agriculture.

INTERNATIONAL CONSIDERATIONS

I would like to focus just for the rest of my time on a very important situation that has developed internationally over the last 2 weeks. The projected cut of $65 million by the Stockman OMB and the current Department, as opposed to $525 million that was stated in the law and requested in the Carter administration, has been very seriously reacted to by both our allies and other countries in the world that are doing fusion research.

One of the things I would like to submit to the record, which I provide a copy to the committee, is a telegram that was sent to President Reagan and Secretary Edwards 2 weeks ago. It is signed by 30 top scientists, industry leaders, and labor leaders throughout Western Europe, and they state their concern that the administration's statements in terms of cutting back the magnetic fusion program, the McCormack fusion bill as they identify it, as well as conventional and advanced nuclear energy has very grave national security and science implications for our allies.

I will just read very briefly one sentence from the telegram. They say:

> We, therefore, urge you to reverse the ill-advised and dangerous policy of massive budget cuts in fusion research in the NASA space program and science education and other vital areas of R. & D. proposed in the budget drawn up by the Office of Management and Budget Director David Stockman.
>
> Besides doing irreversible harm to U.S. potential, these cuts will greatly undermine European research efforts in the same area.

I would also like to inform the committee, about a month ago the Soviet Union had a party congress during which they restated their long-range energy forecasts and their commitment to develop fusion as their ultimate energy source. And finally, in this international picture, something that is not generally known. Last Friday, Former Prime Minister Fakuda of Japan had a meeting with President Reagan and during that meeting made a proposal to President Reagan which he had made 2 years ago when he actually was the Prime Minister.

This was a proposal that the Japanese Government cooperate with the United States in fusion development.

Senator JOHNSTON. I don't want to cut you off, Ms. Freeman, but we are getting far behind on our schedule here. As I indicated to the last witness, I am a strong supporter of fusion energy, both magnetic and laser fusion.

You allude in your statement to the HTGR, which I also support. We will do the very best we can. The funding of the McCormack bill, I am afraid, is pretty much out of the question, but I don't think that we should consider it to be out of the question to try to restore some of the cuts in fusion, because I think it is ill-advised to do so.

So, we will do the very best we can on this and hope that we can turn Mr. Stockman and others around.

Ms. **Freeman**. I thank you very much.

[The statement follows:]

STATEMENT OF MARSHA FREEMAN, FUSION ENERGY FOUNDATION

I would like to thank the chairman for the opportunity to testify before the subcommittee for the Fusion Energy Foundation on the fiscal year 1982 budget appropriations for the magnetic fusion program.

The Fusion Energy Foundation is a not-for-profit scientific foundation which has 16,000 members. The Foundation is the publisher of FUSION Magazine which is read widely throughout the United States and internationally, and has a current paid circulation of 200,000. FUSION is now also being published in German and Spanish.

Fusion energy is unlike any energy source that is on the horizon for the future. Fusion research lays at the frontier of basic science, new technology and holds in store for us revolutions in industrial production. The development of fusion as an energy source, through the Department of Energy program will greatly effect our national security and the rate of the Nation's economic recovery. Therefore, we trust that the most careful consideration will be given to this critical FY82 fusion budget request.

Last year the Congress passed the Magnetic Fusion Energy Engineering Act of 1980, which the President signed into law on October 7. The Act was the result of a series of reviews of the fusion program done for the Congress, the Department of Energy and the nuclear industry. All of the reviews agreed that fusion was technically ready to begin a large-scale engineering effort. The law authorized a 25% increase in the FY82 budget to get the program ready to build and operate a Fusion Engineering Device by 1990.

That level of funding, $525 million in FY82, would actually bring the fusion program up to the level of funding that the program enjoyed in FY77. In real dollars, the FY77 authorization of $316 million is equivalent to the $525 million for FY82. The fusion budget has been essentially held flat in the past four years and so the 25% increase is needed to catch up.

By the turn of the century there will be over six billion people in the world. We have the responsibility to ensure that by the beginning of that next century fusion will be able to begin to provide the quality and amount of energy that the world's people require. But in addition to providing an unlimited, cheap and safe form of energy there are three additional reasons why we must proceed to the engineering stage in the fusion program at this time.

Economic Recovery

First, pushing ahead with fusion and the entire array of high-technology nuclear energy sources is the only way to guarantee a U.S. economic recovery. This will not take place through belt-tightening, budget-cutting or any other temporary measures. To return the U.S. to a competitive position internationally and reduce inflation, unemployment and industrial decay, the government must recommit itself to work with industry to introduce the most productive and energy-dense sources of energy production into the economy.

Increased productivity in industry and agriculture very much depends upon an abundant and affordable supply of energy, and an increasing rate of introduction of new technology. This new technology is directly dependent upon government support for basic research and investment in research and development.

It would be the height of irony to determine that the Nation could not "afford" to put enough support behind fusion, the breeder reactor, the high temperature nuclear reactor and other frontier technologies which are, in reality, the underpinning for the economic recovery which the budget cuts are supposed to accomplish. We will not recover to a position of world leadership in industry and agriculture and hold on to that lead by undercutting tomorrow's technologies to save a few pennies today.

Recently even the country's leading high-technology export industries such as electronics and computers have voiced their fear that over the next decade the U.S. may be replaced in the international marketplace in the new technologies projected for the future. This situation should motivate us to reconsider the government's role in supporting basic research and development.

In addition to the plentiful electric power fusion will provide, fusion energy can be used for the economical production of synthetic fuels through the splitting of water to produce hydrogen. The heat from fusion can be used in industrial processing, desalination of water, space heating and for other purposes.

The spectrum of radiative energy produced in the nuclear fusion reaction can be applied to materials processing, recycling and processing of foodstuffs. It may well be the case that the use of fusion will more immediately be as a source for synthetic fuels and raw materials processing than electric power.

The technological spin-offs from fusion, which make their entrance into our industry considerably before fusion provides a large share of our baseload electric power, include the development of superconducting magnets and materials, bulk power handling and conditioning techniques, high-temperature materials development and many others. Much like the technological spin-offs from the 1960's NASA Apollo project, which never itself produced a commercial product, fusion technology development will create whole new industries of the kind the Nation needs to recover its economic health.

National Security Implications

There are definite national security implications to the path of fusion development the Congress decides upon during the budget process this year. Certainly, our military strength depends upon the overall economic health of the Nation. No military production program could ever be sustained without a firm foundation in basic industry and frontier technology production.

Secondly, it is recognized by military experts that the character of strategic war-fighting will change qualitatively over the next 5-10 years. We are entering into a new military era where dependence on the basic ICBM system will be superceeded by whole new defensive capabilities, all of which depend upon the scientific research at the frontiers of current knowledge.

The development of beam weapons, made up of coherent beams of particles, deployed either on Earth or in space, will totally change the military-strategic picture. The basic research done in the fusion program in studying the behavior of plasmas and coherent particle beams produced in the fusion process will bear heavily on this military research.

Third, fusion research concentrates on questions dealing with the highest energy-dense processes available to man. Many of the technologies that will be developed to produce and handle energy-dense systems will be spun off the fusion effort. Many of these will be needed by the military for frontier weapons development. Though magnetic fusion is not a weapons-applicable technology itself, its contribution to these engineering and scientific frontiers is what keeps our military capability on par with the rest of the world.

There is no question that the fusion program is one of the most publicly supported energy program in the Nation. Like the space program, it has captured the imaginations of many of our citizens in terms of its challenges and its potential for the future. This is also true internationally, where, at the present time, the Japanese government is spending more money per capita on fusion research than we are in the U.S.

Based on the excellent and encouraging results in fusion experiments both here and abroad, the European Community is now discussing up-grading and accelerating their Joint European Torus fusion tokamak program.

Many developing nations have expressed an interest in becoming involved in fusion research. Some realize they must be prepared to participate in the development of the major energy source of the twenty-first century.

So far the U.S. has maintained the lead internationally in fusion research. We will not maintain that lead if we continue to refuse to put the resources necessary into the program.

The Fusion Energy Foundation, which has worked tirelessly to educate the American public about the promise and challenge of fusion, is confident that the Congress will up-hold the mandate in the Fusion Act and the trust of the American people who supported that legislation by setting the Nation on a course which will ensure the development of commercial fusion energy.

Thank you for your attention.

ENERGY RESEARCH PROGRAMS

STATEMENT OF SUSAN KOKINDA, WASHINGTON REPRESENTATIVE, NATIONAL DEMOCRATIC POLICY COMMITTEE

Senator JOHNSTON. Next, we have Ms. Susan Kokinda, Washington representative of the National Democratic Policy Committee.

Ms. KOKINDA. Thank you, Mr. Chairman. The National Democratic Policy Committee is a multicandidate political action committee and policy-formulating body established in August 1980. Representing the traditional moderate and conservative constituency base of the Democratic Party, the NDPC is committed to a policy of bipartisan cooperation with the Reagan administration in furtnerance of the overwhelming mandate for growth delivered in November 1980.

I don't particularly want to speak to any particular programs, although our historic support of the fusion program and water projects, I think, is well known.

What I do want to identify, what I do want to state, I think, is that it is about time somebody noticed that the emperor has no clothes.

In this case, I am referring to David Stockman, figuratively, of course. Mr. Stockman's alleged policy of restoring economic health to the United States through balancing the budget, I think, is a fraud.

One is not going to restore economic health to an industrial firm, for example, by closing down its assembly line because that costs too much.

The way we are going to restore economic health to this country is by using the Federal Government to foster the appropriate tax credit and research and development policies to get this country moving again.

GLOBAL 2000 REPORT

Instead, I think Mr. Stockman's policies and budget cuts are motivated by a report known as Global 2000, and I urge this subcommittee to take a very close look at that report. It was promulgated by the Carter administration in its waning months. It is a policy which accepts a Malthusian premise we are running out of resources.

Senator JOHNSTON. Your statement here sort of catches my eye as I read that Global 2000 being against Tenn-Tom and Red River and other forms of progress.

We must stop that study.

Ms. KOKINDA. Well, the study is already in effect.

Unfortunately, its advocates are still in the administration. I think Mr. Stockman's budget cuts are of a piece with the Global 2000 report and rather than everybody scrambling to save their own program, which is understandable, I think it is necessary that the policy thrust of Mr. Stockman's proposal, which is postindustrial, society essentially is what is laid on the table.

What is absolutely ironic is a conference which took place over the weekend on water policy.

Abby Hoffman, the yippie—this is just a meeting on water policy, but it is the same crowd of people essentially. He embraced the conservatives in Congress, and Mr. Stockman who are about to cut the water budgets.

The next day Mr. Hoffman went to New York and talked about destabilizing the Reagan administration. I think Mr. Reagan better take a hard look at who Mr. Stockman's allies are.

The Global 2000 report is a self-fulfilling prophecy. It says economic growth breeds population and if we stop economic growth we are going to stop population growth.

If that is true, we are also going to kill about 2 billion in the Third World if we don't go ahead with such programs as research and development in the Unites States.

I hope I have caught your eye. I hope I catch Mr. Stockman's eye. I hope it challenges me to a duel.

Senator JOHNSTON. Well, thank you very much, Ms. Kokinda. I am very much a "build American" man—water projects, energy projects. I think this kind of technology is, indeed, what makes this country go and what will provide our future.

I think it is very shortsighted, indeed, to cut back on the basic infrastructure of this Nation, which is provided by things like fusion energy, HTGR, Tennessee-Tombigbee, Red River, and other great national projects. And I am glad you agree with us on that.

PREPARED STATEMENTS

Ms. KOKINDA. If I could, I would also like to ask that, in addition to my testimony, two other short statements be appended to my statement in the record.

Senator JOHNSTON. Yes; without objection, that will be put in the record.

Thank you very much.

[The statements follow:]

STATEMENT OF SUSAN KOKINDA, WASHINGTON REPRESENTATIVE, NATIONAL DEMOCRATIC POLICY COMMITTEE

The National Democratic Policy Committee is a multi-candidate political action committee and policy-formulating body established in August, 1980. Representing the traditional moderate and conservative constituency base of the Democratic Party, the NDPC is committed to a policy of bipartisan cooperation with the Reagan Administration in furtherance of the overwhelming mandate for growth delivered in November 1980.

That mandate was delivered not by some radical libertarian upsurge nor by some mystical fundraising and media machine, but by the traditional Republican AND Democratic machines which saw in Ronald Reagan a chance to restore this nation to industrial greatness. A minimal exercise of true political leadership, which we unfortunately have yet to see from the Administration, will rapidly prove that Americans will rally behind a nation-building perspective.

Nation-building means that this nation be on the frontiers of research and development -- of fusion development, of advanced nuclear technologies, of space exploration, and of necessary industrial infrastruction such as the water projects that are under the jurisdiction of this subcommittee. Under the guise of budget-cutting, David Stockman may succeed in turning this nation into a post-industrial society, where Ralph Nader and Jimmy Carter have so far failed. I say "guise", because it is the assessment of the NDPC that Mr. Stockman's budget policies are, in reality, an implementation of the policies of the last Administration's "Global 2000" report.

The NDPC urges this subcommittee and the Congress to examine closely that report, promulgated during the waning months of the Carter Administration. That report and its companions, "Global Future" and a "Time for Action", accept as inevitable a Malthusian resource crisis, and -- on that assumption -- commit the United States to a policy goal of reducing the world's population by over 2 billion people between now and the year 2000. For the first time a major nation has adopted the global goals of population control as its policy -- for economic and national security reasons.

Despite the obvious antagonism that President Reagan must evince personally to the policy outlook of Global 2000, key institutions, such as the State Department's Office of Population Affairs, continue to exist and push such policies, and key individuals such as David Stockman and Alexander Haig are advocates of such policies.

The crux of Global 2000 is that it is a horrifying, self-fulfilling prophecy. It's advocates view economic growth, and especially such critical components as energy and water development, as "breeders" of population. They restrict that growth and then wring their hands as 2 billion people die through starvation, plague and economic-instability-fostered warfare. On February 17, 1981, John B. Oakes, former senior editor for the New York Times, showed graphically how this works. In an Op-Ed in the Times, Oakes called for major cutbacks or terminations of funding for such projects as Tennessee-Tombigbee, the Red River project, Lock and Dam 26, and the Central Arizona Project. In a subsequent interview, Mr. Oakes confirmed that he took most of his ideas from the Global 2000 report and continued, "I haven't asked Stockman about Global 2000, but I understand that he is sumpathetic to that as well . . . If Tenn-Tom were stopped today, there would be no further industrial development along the Tennessee Valley, which would reduce energy consumption. And there would be no further increase in population growth on the northern Mississippi. This woud help."

The nature of the cuts that Mr. Stockman has proposed, especially in the areas of fusion research, space exploration, science education and the threatened cuts or changes in water development and waterway usage policy can have only one economic rationale -- curtailment of industrial and population growth in the United States.

The alleged excuse of "balancing the budget" is ridiculous. One does not balance a budget by chopping out the productive role of the federal government. Admittedly, our federal government has fostered a great deal of "overhead" or "service sector" parasitism over the past decade or so -- unproductive overhead which should be cut on principal. But one does not save an "overhead-bloated" industrial firm by closing down its assembly line because it costs too much to run. While parring down overhead will help, the actual solution is obviously investment and innovation in the producing side of the firm.

Our economy showed its only real growth, measured in actual, substantial productivity increases for productively-employed operatives, during the mid to late 1960's. Two policies spurred that growth -- a *targetted* tax policy and the federal commitment to the NASA program and what that meant in terms of technological advances surged back into the private sector. NASA must be continued and expanded, but today's version of the NASA program is the full implementation of the McCormack bill -- the Magnetic Fusion Energy Engineering Act of 1980 at full funding of $525 million. Fusion is not just another, nice alternative energy source. It represents the qualitative change in the energy efficiency of our economy in a whole array of technologies which an economy *must experience or inevitably regress*.

However, as Mr. Oakes and the Global 2000 advocates evince, there are those who wish us to regress -- at the cost of 2 billion lives in the developing sector by the year 2000. Mr. Stockman, we believe, is of this same mind and it is time that someone announced that the emperor has no clothes. Indeed, if Mr. Stockman were serious about cutting the budget, he would do something about the high interest rate policies of the Federal Reserve Board which are adding $20 billion to the federal deficit in debt service payments alone.

But Mr. Stockman's goal is not a balanced budget as Professor Daniel Bell, a former professor of Stockman's and author of the 1973 book, "The Coming of the Post-Industrial Society," recently told an interviewer: "Stockman has maintained a consistent outlook dating from his student days . . . as a believer in the post industrial thesis. Stockman's idea is to remove all government impediment to the post-industrial society, and let market forces take care of the rest. . . . Unfortunately, David Stockman cannot talk openly about these ideas in his current environment. But we have done pretty well. . . . A particular post-industrial barometer is Stockman's cuts in internal improvements and related programs . . . This gives industry the message that the free ride is over. It will force investment into areas that are profitable, such as high technology electronics and the service industry."

Prof. Bell is not alone in his assessment of Mr. Stockman's programs. This past weekend, here in Washington, a conferences entitled "Water Policy in the Reagan Administration" was sponsored under the auspices of the Environmental Policy Center. A spokesman for the EPC exulted that the environmentalists were in good shape on water policy because of the conservatives in the Administration and the Congress. He praised Stockman's "insistance on waterway user charges . . . We ought to support the budget cutters and encourage them." The keynote speaker at the event was Yippie Abbie Hoffman. From attending this conference which embraced David Stockman on Saturday, Hoffman traveled to New York City on Sunday to a Yippie conference which planned direct actions to foment social disturbances in opposition to the Reagan Administration.

President Reagan is about to be "Hooverized" by the Global 2000 advocates in his Administration. This subcommittee has jurisdiction over two components of national policy -- energy and water -- which stand at the center of the fight between the Global 2000 advocates and the nation-builders. You have an enormous responsibility to the nation and to the world. We urge you to reject the foolish trap of playing fusion appropriations off against nuclear appropriations or water appropriations off against fusion appropriations or to feel bound to a ridiculous notion of "across-the-board cuts." Fusion and advanced nuclear technologies such as the High Temperature Gas Cooled Reactor must be funded to the fullest extent, as must continued and accelerated development of our water resources.

At this point, I would like to insert two written addenda to the hearing record: a statement by our Advisory Council Chairman, Lyndon H. LaRouche, Jr. entitled "Administration Energy Budget Policy Has Wrong Bias;" and an article from the Executive Intelligence Review entitled, "Stockman's Global 2000 Approach."

Administration Energy Budget Policy Has Wrong Bias

by Lyndon H. LaRouche, Jr.
Advisory Committee Chairman

The Office of Management and Budget's proposed cuts in the budget for fusion-research work typify a counterproductive bias. Unless this bias is corrected, more or less irreparable damage will probably result.

For example, the single largest and cheapest cut in the Federal deficit would be action to force the Federal Reserve to reduce interest rates. For every one percent increase in the interest rate, the federal debt service costs increase cumulatively by between $20 and $25 billions! The increase of the federal deficit caused by Paul A. Volcker's collapsing of the federal tax base is another major cut in the federal deficit which can be accomplished merely by combined Executive and Congressional action.

It is unfounded, unacceptable and contrary to the Constitution of the United States, to support or tolerate the subversive proposal that the Federal Reserve System may enjoy independence from the government of the United States in matters affecting the general welfare of the nation. Section 1, Article 8 of the Constitution awards to the Congress both the *power* and the *duty* to:

> "regulate commerce with foreign nations, and among the several states, and with the Indian tribes."

The same Article obliges the Congress to:

> "promote the progress of science and useful arts . . ."

The Federal Reserve System exists by sufferance of Act of Congress, and may be altered, directed, or summarily dissolved by Act of Congress. That, and that alone, is the essence of the matter.

The Federal Reserve System exists only for so long as the people of the United States, through their representatives in the Congress, judge it to be convenient to the general welfare to continue the current practices, executive appointments or very existence of that institution. To entertain the subversive proposal that this private institution, the Federal Reserve, constitutes in effect a fourth branch of the Federal government, is an abomination. To permit that private institution to consort with foreign financial powers to dictate the condition of the general welfare of our nation independently of government is to condone a dissolution of the sovereignty of the United States.

The Congress must therefore act accordingly, before irreparable damage ensues from Mr. Paul A. Volcker's measures, bringing our industrial and agricultural sectors into a state of spiraling collapse. It is time to heed the counsel of our principal allies on the continent of Europe, and to slash the Federal deficit at the most obvious point. The Congress must therefore act to compel the Federal Reserve to cease the present lunatic policy of usurious interest rates.

There are numerous redundancies in the present federal budget. What is useless should be cut out entirely. It is reckless and destructive to apportion budget cuts among essential functions rather than slashing entirely non-essential functions. Let us therefore act in this matter in support of the excellent policy-perspective set forth publicly by President Ronald Reagan this week. Let us cut what does not contribute to productive employment, security and scientific progress of our nation, and increase the allotments for those activities which increase high-technology productive employment work-places and promote accelerated scientific progress.

It is a bad notion of even-handedness which guides a surgeon to cut in equal proportions from vital organs and an obnoxious cyst.

The Fusion Budget Per Se

There are some gentlemen who distribute the opinion that expenditures for fusion research are a trade-off against expenditures for deployment of the fission breeder-reactor. I have only strong indications of how that ill-conceived argument came into policy-making channels, and who authored that particular piece of non sequitur reasoning. It is not necessary to detail matters of personalities here. As in the case one is served bad food in a restaurant, one does not need to secure a copy of the cook's birth certificate before requesting the waiter to remove the disgusting stuff.

There are two dangerous fallacies involved in the proposal to trade off fusion research for promotion of fission-breeder programs. First, the mere idea that a trade-off exists is without basis in fact. Second, with the cutting edge of our basic scientific capabilities already fallen massively behind the level of Soviet efforts and research, to cut away the very leading edge of our nation's scientific progress is to act directly contrary to both our national interest and to take a direction opposite to the President's economic message of this week.

A Sound Nuclear Policy

Now that the new President is inaugurated, the time has come to act on the implications of his landslide election victory. It is time to bring to an end the great "environmentalist" hoax which has ruined us as an industrial nation over the period since 1967-68.

It is time to face the truth about the "environmentalist" hoax. This aggregation of irresponsible and also deliberately false arguments concerning the "environment" was launched with the issuance of a report authored by the London Tavistock Institute, with which the name of the celebrated Anatol Rarpoport was associated. This report deplored the fostering of pro-science rationalist values among our people by the achievements of the National Aeronautics and Space Administration, and recommended curtailment of that and related scientific programs.

This report by the psychological-warfare division of a foreign power was reenforced by the emergence of a wide range of well-financed propaganda campaigns against continuation of technological progress both abroad and within our nation. Exemplary of those neomalthusian propaganda campaigns were the efforts of the World Wildlife Fund and the Club of Rome, as well as the curious proposal for transforming the United States from an industrial power into the "Clockwork Orange" world of a "Technetronic Age."

During the close of 1969 and the beginning of 1970, most of the "New Left" and kindred spirits in our own and other nations was "retooled" on signal to constitute itself as the instant creation of what has been named since "the environmentalist movement." Apparently emboldened by the development of such an upsurge of "environmentalist" sansculottism in Europe and North America, during the 1972-1974 period, the Club of Rome outraged the moral sensibilities of honest persons around the world, by proposing a genocidal reduction of the human race in the order of billions of persons by the close of this present century. It was proposed that this might be accomplished through aid of such "natural causes" as the encouragement of famine and epidemic in various large regions of the world, with considerable emphasis upon the populous regions of the developing sector.

Lately, we are reminded often of the tens of millions of persons murdered under the direction of Alfred Speer in the slave-labor system of the Adolf Hitler regime. Yet, faced with reminder of the lesson of tolerating the Hitler regime during the 1930s, we appear to sit bemused, unaware of an ongoing, "environmentalist" proposal to devote the coming 20 years to conducting genocide on the scale of billions of human beings. Worse, before the recent administration betook itself rather ungraciously from our nation's capital, it issued a report entitled "Global 2000," whose pages propose crimes a hundred times more extensive and more hideous than the evil promises inscribed in Hitler's *Mein Kampf*.

Looking more deeply into the lessons of the Hitler experience, we note that the hard core of activist "environmentalists" today bears a species-resemblance to the Weimar Germany "youth counterculture" from which Nazi leader Gregor Strasser recruited the greatest portion of the Nazi "Youth Movement."

It is worse than merely promises of evil to come. The genocide proposed early during the last decade by the Club of Rome is already afoot. There was the death of millions in Bangladesh—and nothing but ineffable tokenism was done by the world community to prevent it. The recently-deposed Pol Pot regime of Kampuchea, acting under specific guidance from battalions of advisors from the Peoples Republic of China, systematically and deliberately murdered not less than three-sevenths of the population of that nation, with special emphasis of selectively murdering those Kampucheans who had any special varieties of technical skills or even mere literacy. Currently, because of application of a "conditionalities" policy of the International Monetary Fund, tens of millions are dying of famine and epidemic in black Africa, a development whose causes are policies supported by the same administration which issued the monstrous proposal for evil known as the "Global 2000" report.

It is now time to cry "Enough!" It is time to brush the lying propaganda of the "environmentalists" to one side, and to undertake to rebuild our nation from the relative shambles "environmentalist" policies did so much to produce.

This nation requires an approximate minimum of 1,000 gigawatts of additional electrical-output equivalent of energy production capacity during the course of the coming two decades. Most of this must be nuclear energy production. On condition that we terminate the mass of sabotage accomplished legally through legislatures, courts and executive agencies, the required time for construction of nuclear plants can be reduced to between four and five years—rather than the ten to twelve imposed by environmentalist-caused red tape. Under those remedied conditions, nuclear energy is the most cost-stable, relatively the cheapest, and most desirable in environmental impact of any form of large-scale energy production.

All of this increase of energy capacity over the next two decades must be completed before commercial fusion reactors come significantly into the picture.

Taking into account world needs, the total required increase in energy capacity over the coming two decades, if we are to reverse trends toward genocidal famine and epidemic, must be in the order between 5,000 and 7,000 gigawatts.

In rough terms, this means the need to regularly reprocess a charge of approximately one ton of nuclear fuel assemblies for each gigawatt. This means that up to 7,000 tons of fissionable fuel-charges must be maintained with aid of reprocessing by the end of this present century. Perhaps only 5,000 tons, assuming other-than-nuclear technologies take up part of the requirement.

If we compare the fuel requirements of such programs with the reproduction rates available in existing breeder-reactor designs, or in the second generation of fast breeders typified by France's Super Phenix or ongoing Soviet designs, breeder reactors are part of the spectrum of the fuel-supply problem, but are too slow in performance to begin to match overall requirements.

Dr. Edward Teller has proposed to construct a fission-fusion hybrid around the core of the "potato-reactor" design of High Temperature Gas-Cooled Reactor perfected by the Julich research laboratories in the Federal Republic of (West) Germany. He projects a ten-year start-up time for bringing a developing such fission-fusion hybrid on line. Consultation with other leading experts in the matter assures me that Dr. Teller's proposal is eminently supportable, and represents a significant improvement in efforts to solve the problem.

It is still grossly insufficient.

This leaves us with two problems not solved by breeder-reactor programs alone. First, there is the matter of the quantity of fuel required in the pipeline. Second, there is the not-so-insignificant matter of reprocessing thousands of tons of spent fuel charges annually.

Both problems require a shift of the total effort into dimensions outside both the breeder and fission-fusion hybrid. We must develop rapidly beam-accelerator technologies, already in development, which will accelerate qualitatively the process of developing appropriate fissionable fuel, and which will also provide us the "soft neutron" sources needed to destroy non-recyclable portions of the reprocessed nuclear wastes.

In any competent definition of categories of research and development, particle beam technologies and fusion technologies are an indivisible unity of scientific specialization.

Any assumption that a practical trade-off exists between fission-breeder and fusion research programs is absurd. Just as fission energy development is needed to bring the economy over the hump into the period fusion technologies are commercially available, without immediate acceleration of progress in fusion research, it is virtually impossible to deal with crucial requirements of the fission development program.

Process-Heat Requirements

Under the recent administration, the Congress was misinformed grossly to the point that it permitted the now-departed administration to launch a massive Rube Goldberg synfuel program. This ill-conceived concoction proposed to develop liquid fuels with aid of the highly energy-inefficient process employed by the Adolf Hitler regime at the Auschwitz concentration camp. Worse, the program if undertaken in full would require the entirety of the surface water supply of Western states—leaving virtually no water for continued production of food.

The very idea of producing liquid synthetic fuel was misconceived from the start, whatever process was adopted for that purpose. The task of shifting from petroleum product consumption is properly approached in two phases. The first phase includes the increased use of natural gas and synthetic methane for both industrial uses and high density home and commercial use. The second phase is to shift the fuels for larger vehicles from petroleum derivatives to either methane or hydrogen. Once we reach the level of producing hydrogen economically, we are situated to produce significant amounts of fuel alcohol from carbon-dioxide effluents of industrial plants.

The production of synthetic gaseous fuels is a question of economy and of the energy flux density of available process-heat technologies. The High Temperature Gas Cooled Reactor is the best source of high-temperature process heat available currently. Throw out the silly synfuel program and use HTRs instead. Later, fusion technologies will permit us to surpass HTR capabilities.

Science Policy

The second dangerous error of bias in emphasis on breeder reactor development as a presumed trade-off for fusion research has the form of a carry-over of the ill-conceived doctrine of "cost-benefit analysis." That specific nonsense was unfortunately built into the design of operation of the Office of Management and Budget at the point the old Bureau of the Budget was discontinued. On the record, this nonsense was conduited into the Executive Branch and propagandized around the Congress chiefly from the same source from which much of the bad advice to government is supplied, the Brookings Institution.

One might have wished that the fallacy of the "cost-benefit analysis" and related concoctions would have been fully recognized from the wretched consequences of Robert S. McNamara's reign at the Department of Defense. Like former FBI Director Hoover, once some things become institutionalized in Washington, nothing seems to move them out.

During the course of the 1980 presidential primary campaign, I stressed that cleaning out of the OMB was one of the first tasks a new president would have to undertake, and that without bringing that can of worms under control, no program of the Executive or the Congress had much likelihood of successful implementation. As a bipartisan gesture, I attempted to stress the same point to the transition team for the new administration. Looking at the proposed budgetary adjustments, I am made painfully aware of the wisdom of my recommendation on this matter.

The attempt to weigh the merits of scientific research programs in terms of cost-benefit ratings is like trying to increase the profitability of a railroad by slashing maintenance. The ruining of the New Haven Railroad under the McGinnis management is one of the horrifying examples of this which I have in mind. Cutting research and development is easy to justify from a cost-benefit standpoint. It is also a policy whch ensures thaat a firm or national economy will still be producing buggy whips when people are driving automobiles.

Speaking as a patriot, if my government is so short-sighted as to tolerate the national disaster implicit in slashing the fusion research budget, then it is my duty to find friendly nations—perhaps such as neighboring Mexico or India—where the new technology the United States desperately needs can be developed for our future needs "off-shore."

In this area, we are proverbially inches away from qualitative breakthroughs on a number of fronts, breakthroughs which would have occurred already but for the policies of James R. Schlesinger and the Carter administration's neomalthusian policies generally. The Soviet Union, employing many times more trained scientists and engineers in these areas than in the United States, is making breakthroughs in these crucial areas, including relativistic-beam research. If we collapse the level of fusion research below even these miserable levels the Carter budget allowed, those cuts must be translated into savage cuts in some parts of the meat and bone of an already precariously shrunken overall research capability.

The proposed cuts are a bad blunder; failure to reverse that proposal might represent an irreparable disaster. Cut neither the breeder reactor, nor fusion research. Cut the debt service portion of the deficit drastically, even if it requires emergency legislation to force the Federal Reserve to drop interest rates drastically.

Stockman's Global 2000 approach

Contributing Editor Christopher White identifies the real planners of the Stockman budget and its consequences for world population potential.

Crucial features of the economic package drafted for the Reagan administration by David Stockman, head of the Office of Management of the Budget, have been lifted directly from the genocide blueprints *Global 2000 Report* and *Global Future, Time for Action*.

These reports, commissioned during the administration of the psychotic Jimmy Carter, committed the United States as a nation to the policy goal of reducing the world's population by over 2 billion people between now and the year 2000.

The adoption of these reports is touted by supporters in the National Resources Defense Council and the World Wildlife Fund as a historical first. "For the first time a major nation has adopted global goals of population control as its policy," an environmentalist spokesman said in a recent interview.

If the adopted features of the Carter program, including the specific evils foisted on the Reagan administration by Stockman, are not reversed promptly, the result intended by the drafters of the plan will be genocide on a scale incomparably greater than anything Adolf Hitler contemplated. In the words of Harlan Cleveland, the NATO-Aspen Institute spokesman who is systematically promoting Global 2000, "With no development policy and a Kissinger-Brzezinski line, we'll get the politics of turbulence and chaos in the Third World. . . . Breakdowns like in El Salvador . . . could easily degenerate into a hundred Cambodias, where, if they haul off and kill one-third of the population, this would be delightful for the demographers."

Those who are now defending the so-called economic package on the grounds that "it should be given a chance to work" should be informed that their ignorance or stupidity is making them accomplices of those whose evil intent is to reduce the world's population by the indicated order of magnitude.

The Stockman budget follows the Global 2000 blueprint in the following areas.

- Proposed cutbacks in science and science education programs.
- Cutbacks in government-backed high technology and infrastructural programs, such as the proposed cuts in NASA space program funding and in internal water resources development programs.
- Cutbacks in labor and social service programs.

The pedigree of Stockman's budget hit list is recognized by supporters of the Global 2000 policy such as John Oakes, former senior editor of the *New York Times*. In a Feb. 17 op-ed, Oakes proposed the elimination of certain water projects, including Tennessee-Tombigbee, the Red River Waterway, and expansion of Lock and Dam 26 on the Mississippi.

In a followup interview, Oakes told an investigative reporter, "I got most of my information for that editorial from the *Global 2000* report and its current update the Global Future."

Who's behind Global 2000

As *EIR* has identified, the Global 2000 genocide perspective was elaborated during the Carter administration by the largest interagency task force ever assembled within the U.S. government, collaborating with selected outside advisers.

The teams were at the time under the direction of Oakes's fellow *New York Times* associate Secretary of State Cyrus Vance and his successor Edmund Muskie.

The task force built upon foundations that had been laid within the State Department and the National Security Council by Henry Kissinger, who was responsible for the establishment of population control offices in both the indicated sections of the executive branch.

Now Cyrus Vance has joined with Elliot Richardson, holder of a variety of government positions under Presidents Nixon and Ford, Aspen Institute head Robert O. Anderson of Atlantic Richfield, and others to form a "Committee for the Year 2000" to ensure that the genocidal goals adopted by the former Carter administration are continued under President Reagan. Senate hearings sponsored by Sen. Charles McC. Mathias of Maryland have already been held to elaborate their genocidal perspective.

This combination, for example, created the ongoing bloodbath in El Salvador in order to further their objectives. As they did so, they gloatingly asserted that new Secretary of State Alexander Haig was their man. Subsequently Latin American desk officer Thomas Ferguson in the State Department's Office of Population Affairs has reported that problems in that country are caused by overpopulation, and that bloodshed will continue until that poulation is reduced. Muskie, Vance, and their allies plunged black Africa into the holocaust of war, famine, and drought which now endangers over 100 million people. The Carter administration repeatedly refused to adopt polices that could reverse that crisis.

The predecessors

The Global 2000 project is the latest outgrowth of a series of efforts set into motion in the late 1960s with the 1967 formation of the neo-Malthusian Club of Rome of Aurelio Peccei as a branch of NATO intelligence and with the concomitant secret recommendations of Robert Rapaport, the Ann Arbor, Michigan-based agent of London's Tavistock Institute, to cut back the NASA space effort because the scientific and technological ramifications of the program were proliferating too rapidly for Tavistock's liking. Stockman's present budget follows the same tradition.

In 1969, Richard Nixon established a Presidential Commission on Population. That commission included in its membership such individuals as George D. Woods, former World Bank president and a spokesman for the genocidal policies of the environmental lobby. The Presidential Commssion reported its findings in 1972, including the recommendation that the growth of U.S. population no longer be regarded as beneficial.

The 1972 report correlated the global availability of cheap, abundant sources of energy and water with potentials for population growth. It was asserted that control of energy and water were key to accomplishing goals of population reduction.

The cited presidential report was followed later in the 1970s by the series of publications sponsored by the Club of Rome, including the Meadows and Forrester *Limits to Growth* tract and others. Using different languages to accommodate to the different susceptibilities of populations to accept policies that mean their own suicide, the Club of Rome reports elaborated the Presidential Commission's argument.

Global 2000, based as it is on conceptions of finite resources, the earth's finite capacity to support life and so forth, continues the tradition.

In 1970 it was projected that there would be over 8 billion inhabitants of the globe by the year 2000. By the mid-1970s that figure had been reduced to approximately 7 billion. By the time Global 2000 was issued, the estimate had been reduced further to approximately 6.35 billion. Despite much lying by the proponents of finite-resource economics, the advocates of Global 2000-type perspectives know perfectly well why such a projected drop has occurred, and why humanity's capacity to support a potentially enlarged population base has been curtailed in the way it has.

These are the circles exemplified by George Ball, coconspirator to install the Khomeini regime, and by the Club of Rome's George McGhee, who, in McGhee's words, exult that "high [oil] prices have kept world population down."

These are also the circles that have fought relentlessly for more than a decade to slow up and stop the development of nuclear energy, and to curtail the investment of funding for nuclear fusion development. Full-cycle fission technology, pushed ahead rapidly more than a decade ago, would have made available the cheap and abundant sources of energy the drafters of the Nixon report on population feared. At the same time, adequate and sustained funding of fusion programs would have contributed to advancing the frontiers of basic science to the point where humanity could be capable of overcoming so-called finite resource problems for an era to come.

Stockman and Volcker

Not surprisingly Stockman's budget axe has fallen particularly hard on both basic science and the fusion program, as part of a supposed compromise with the genocidal austerity policies of Paul Adolph Volcker, who, as an advocate of the Council on Foreign Relations 1980s Project, is himself an adherent of the Global 2000 bestiality.

Volcker, like Cyrus Vance, Elliot Richardson, and Robert O. Anderson, knows that human survival is dependent on constantly enhancing, through scientific breakthroughs, the availability of cheap and abundant energy. He therefore proposes that credit policy be shaped to abort the realization of the moral human obligation to posterity to ensure the continued basis for human existence. Volcker and Vance know what they are doing, despite the fact that the scale of the genocide envisioned staggers the imagination of the ordinary citizen who has grown inured to the constant demand for ever more austerity.

Stockman's proposed budget is an instrument of the broader policy on behalf of which Volcker, Vance, and company are deployed. His supporters and dupes are to be encouraged to change their minds in light of the genocidal consequences of their continued toleration of such efforts and outlooks. Much as they may desire to achieve growth policies, they need to be reminded that a label marked jelly-beans does not always guarantee the contents of the jar.

Stockman's sponsors are not so cautious in the presentation of their policy, as the following interviews and comments attest.

STATEMENT OF ANTONINE LAFATA SOTTILE, PH. DOCTOR OF ENGINEERING

Senator JOHNSTON. The last witness is Mr. Antonine Sottile.

Mr. SOTTILE. Thank you, Mr. Chairman, I am Mr. Antonine Lafata Sottile, Ph. doctor of engineering, and I wish to stress the urgency to appropriate the required dollars of $25 million denied last fiscal year, for my projects which will assure enormous benefits to this Nation next year, next decade, and next century.

Next year, by existing technology, we could begin immediate application of those immortal principles, as listed in my written statement, allowing to confront crises deriving from unemployment, inflation, recession, versus negative financial palliatives.

For example, to begin to modify gradients of tracks and roads in order to exploit free positive and negative accelerations of gravity; to adopt tunnels underneath rivers in lieu of bridges; to adopt Atlas interchanges at highway crossings instead of conventional cloverleaf interchanges and at urban crossings to eliminate stopping lights; underpasses at around 250,000; railroad grade crossings to avoid every year thousands of deaths, injuries, loss of goods, et cetera; underground traffic through urban and interurban tunnels to achieve complete semi-underground cities, et cetera.

Next year, also, to begin phase of project to shuttle solar mirrors in Earth's synchronous orbit, in order to assure almost night and day Sun radiation on selected areas of Earth's surface, as well as on mobile targets, and to provide next decade unlimited, clean, near-free electric energy.

Next decade gradients' utilization and Wagon Eureka's expansion—my claimed invention—to transfer to tracks and roads the historical automotive function, until this time privilege of vehicles, and to eliminate from traffic heat-engine vehicles.

Next decade also, trains flying near ground surface on the electromagnetic field, complemented, as in transoceanic air traffic, by twin dirigibles—LTA, lighter-than-air craft—to curb in the air lanes the traffic of jets and other kinds of HTA—heavier-than-air craft. Here I must stress the importance of my projects versus conventional ones, adopting almost horizontal tracks.

My projects bring down to zero the power needs for suspension of trains, by exploiting the free electromagnetic field of cryogenic cables to be employed by power utilities, for distance transmission of electric energy. They minimize to 10 percent the power needs for propulsion, by exploiting gravity accelerations. They minimize to 10 percent the enormous amount of materials to be laid on the ground surface of tracks—copper windings or aluminum continuous double-L-shaped sheet.

To begin also projects and to launch multiple probes, in order to complete our knowledge about the adverse environments of planets Venus and Mars; to improve them. While current plans of others require genetic engineering and lapses of 1,000 years, my projects claim to reach great results in a lapse of 50 years. See my written statement's outlines:

Solar mirrors in Earth's synchronous orbit; Wagon Eureka, electric vehicle; twin dirgibles—lighter-than-air; and Atlas interchange.

Senator JOHNSTON. Thank you, Mr. Sottile.

Mr. SOTTILE. Thank you, Mr. Chairman, and I pray you and this honorable committee to appropriate the required $25 million, what approaches the size of a quark when confronted to the enormous amount, in the range of trillion dollars, allotted in the United States and in the world, to other questionable energy initiatives.

[The statement follows:]

STATEMENT OF ANTONINE LAFATA SOTTILE, PH. DOCTOR OF ENGINEERING

Mr. Antonino Lafata Sottile
Ph. Doctor of Engineering
P.O. Box 28292
Washington, DC
20005
****

Washington, DC
March 24. 1981

Hon. Congress
of the U.S.A.
******

SENATE Appropriations Committee
Energy and Water Development SubCommittee
20510

Ref :
My PETITION of September 18. 1980 :
" TO APPROPRIATE during next Fiscal Year
the millions of Dollars ($. 25. Millions)
required (but denied during current F.Y.)
by my A.L.S. (Air Land Sea) Zero-fuel
Transportation Immortal Plan. "

GENTLEPERSONS
****

By presenting to you the joint documentation, in order to stress the enormous benefits, my Projects will assure to this NATION, next years, next decade, next century, and the urgency to APPROPRIATE the required Dollars 25. Millions, I pray You to permit I testify at this week scheduled HEARINGS on the issues.

Thank You
****

Copy of Sept. 18. 1980 petition
I mailed to all Honorable
SENATORS and CONGRESSMEN of Committees:
Senate :Appropriations.
" :Commerce, Science, & Transport.
House :Appropriations.
" :Science, & Technology.

Mr. Antonine Lafata Sottile
Ph. Doctor of Engineering
P.O. Box 28292
Washington, DC
20005

Washington, DC
March 24. 1981

Seven IMMORTAL PRINCIPLES to solve forever problems of Energy and Economy, :
(1) Solar energy - (2) Electrification - (3) Electro=magnetic suspension=propulsion - (4) Savings of energy - (5) Tunneling generalization - (6) Gradients' utilization - (7) Wagon EUREKA, electric vehicle, expansion.

Immortal Principle (1): Solar energy - World-wide Sun INCOME = 177. P.Watts (P.=Peta= =Quadrillion), a number 20,000. and up, times larger than the total power, of every kind, used in the World.

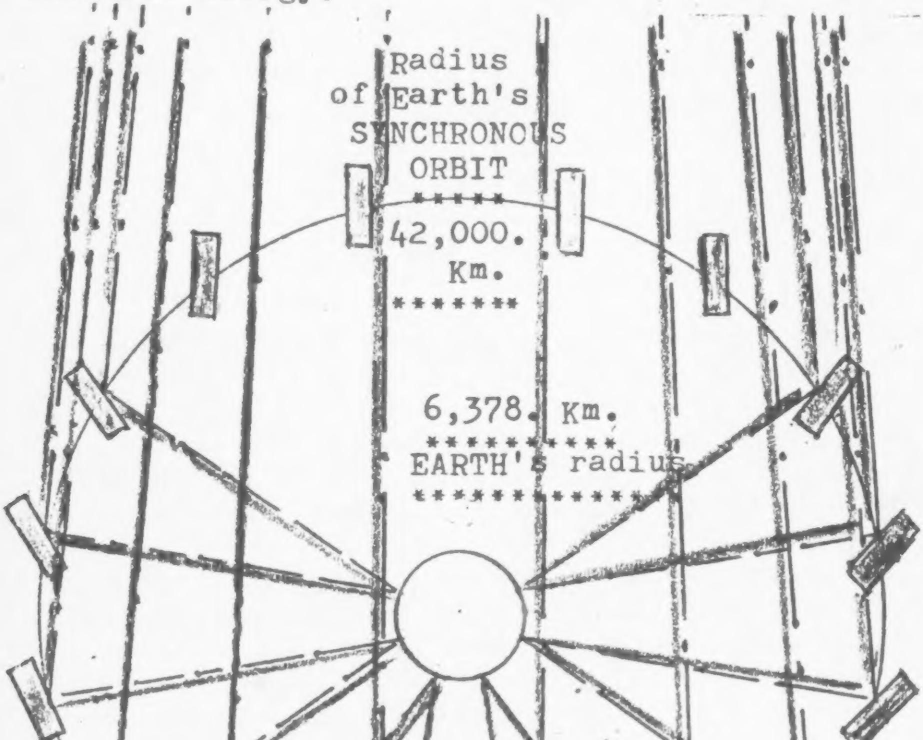
Solar INCOME usable in the U.S.A.

A rate of 928. KWh./m.2. x Year, assumed in my project ARCHIMEDES, (vs. official Data of: 1,400. KWh./m.2. x Year in N.Eastern States, and 2,100. KWh./m.2. x Year in Texas), at 10 % utilization efficiency, provided 7.14 T. KWh./ /Year, (T.=Tera =Trillion), beamed to only 1.% of the contiguous 48. States' Territory = (1.% = 77. G. m.2. with G. =Giga =Billion). 7.14 T. KWh./Year are equivalent to the average energy of every kind, totally used in one year by the U.S.A.

Around year 2000., electric energy estimated demand per year in the U.S.A.: 5. to 7. T. KWh. This amount of energy could be provided also entirely by the WIND power, available in low atmosphere for Wind driven turbines estimated in the U.S.A. above 2. G. KWatts.

Immortal principles: (2), (3), (7), capital intensive, require time and study for their application. So it is urgent to begin next year the phase of PROJECT, in order to achieve in the early 1990's, practical results and assure leadership to this Nation.

SOLAR MIRRORS, SETTLED in Earth's synchronous Orbit, would assure SUN radiation almost night-and-day on selected areas of Earth's surface, on Ships' decks, on Twin-Dirigibles' envelopes, etc., would multiply up-to-date tested efficiencies of Solar panels :
photovoltaics : 5. KWh./m.2.x Day
Solar thermal : 0.5 " " "
and would provide UNLIMITED, CLEAN, near FREE electric energy.


Radius
of Earth's
SYNCHRONOUS
ORBIT
*****
42,000.
Km.
****
6,378. Km.
****
EARTH's radius
****
SOLAR
MIRRORS
****
SOLAR
MIRRORS
****

1937

WAGON EUREKA Electric Vehicle

Wagon Eureka is claimed as my INVENTION, because of 4. means I proposed to assure a PERMANENT LEVELNESS to its body, rotating by a spherical bearing over the underframe, which runs in a succession of downgrades & upgrades, these ones to provide FREE positive and negative accelerations : a) Gyroscopic effect of FLYWHEELS, utilized also as recuperators-accumulators of BRAKES' energy, these ones consisting of coupled motor-generators. - b) LASER beam Gyroscope, electronic, light, low cost, detects in Nano-seconds (billionths of second) changes of level in the order of Nano-meters and by fluids and servo-mechanisms, stsbilizes the body's levelness. - c) RAM. effect, at high speed, the body exploiting for its suspension at level, the resistance of AIR, alike flying aircraft.-d) Electro-magnetic suspension= =propulsion at highest speed, with underframe following the changing grade, 15. to 20. cm. above road or track surface, and with body at permanent levelness, by rotation over the underframe. -

Reclamo el Wagon Eureka ser mi INVENCIÓN, por los 4. medios yo propuse para asegurar una horizontalidad permanente a su carroceria, rotante mediante suporte esférico sobre el chasis, el que corre a través una sucesión de pendientes abajo y de pendientes arriba, estas proveyendo aceleraciones positivas y negativas, gratis.

Je réclame le Wagon Eureka être mon INVENTION, a' cause des 4. moyens que j'ai propose' afin d'assurer une horizontalite' permanente a' sa carrosserie, tournant par le moyen de support sphérique sur le châssis, qui court a' travers une succession de pentes descendantes et de pentes ascendantes, les quelles pourvoient accelerations positives et negatives, gratuites

Air Land Sea

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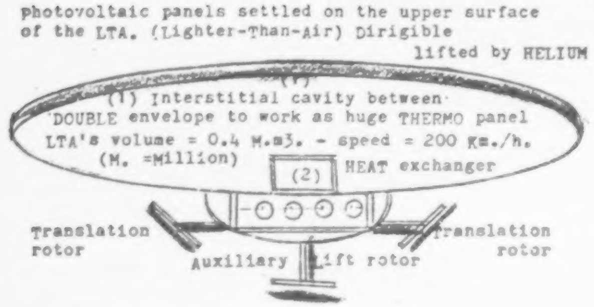
(A.L.S.) Zero-fuel Transportation Immortal plan

****

(year 1979 project)

AIR ZERO-FUEL TRANSPORTATION IMMORTAL PLAN

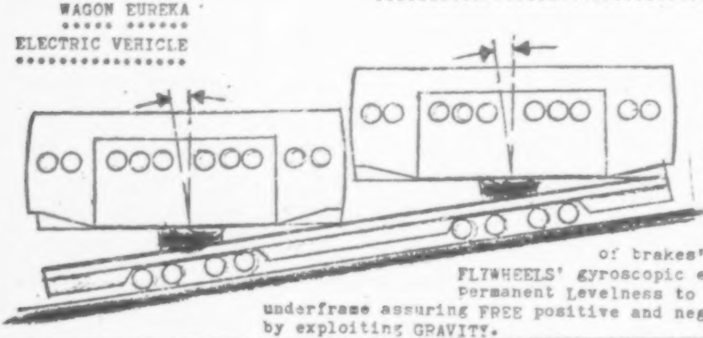

Photovoltaic panels settled on the upper surface of the LTA. (Lighter-Than-Air) Dirigible
lifted by HELIUM
(1) Interstitial cavity between DOUBLE envelope to work as huge THERMO panel
LTA's volume = 0.4 M.m3. - speed = 200 Km./h.
(M. =Million)
(2) HEAT exchanger
Translation rotor
Auxiliary Lift rotor
Translation rotor

LTA.DIRIGIBLE
propelled by
ELECTRICITY
generated by
photovoltaic panels
and by projected huge
Solar THERMO panel

Light composite materia
FLYWHEELS as
accumulators of energy
and stabilizers

400 passengers
capacity

LAND ZERO-FUEL TRANSPORTATION IMMORTAL PLAN

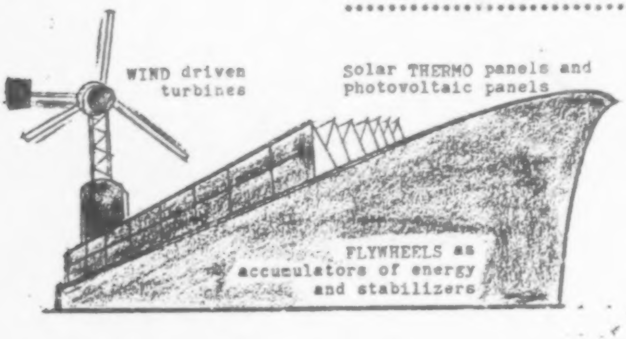

WAGON EUREKA
ELECTRIC VEHICLE

Economy of energy
in transportation
= 4/5
The required 1/5
supplied by Sun,
Wind, Hydro, Tide
etc.

Light composite
material FLYWHEELS
as accumulators
and recuperators
of brakes' energy

FLYWHEELS' gyroscopic effect to assure
Permanent Levelness to the body, with
underframe assuring FREE positive and negative acceleration
by exploiting GRAVITY.

SEA ZERO-FUEL TRANSPORTATION IMMORTAL PLAN


WIND driven turbines
Solar THERMO panels and photovoltaic panels
FLYWHEELS as accumulators of energy and stabilizers

SHIP propelled
by ELECTRICITY
supplied by:
Solar THERMO panels
photovoltaic panels
wind driven turbine
and complement of
Flywheels.

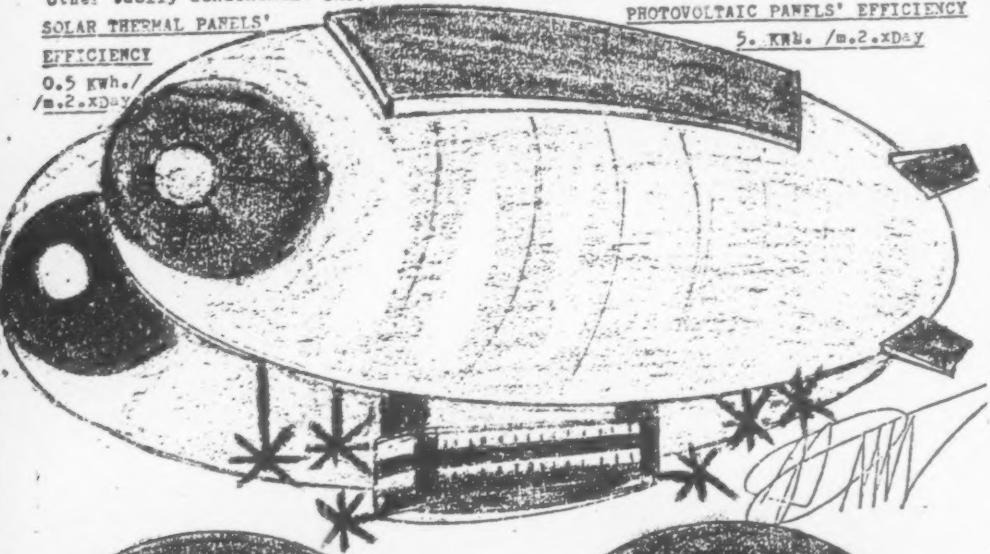
TWIN DIRIGIBLES (LTA. =Lighter-Than-Air craft) ***************** complementing Air Land Sea (A.L.S.) Zero-fuel Transportation Immortal plan

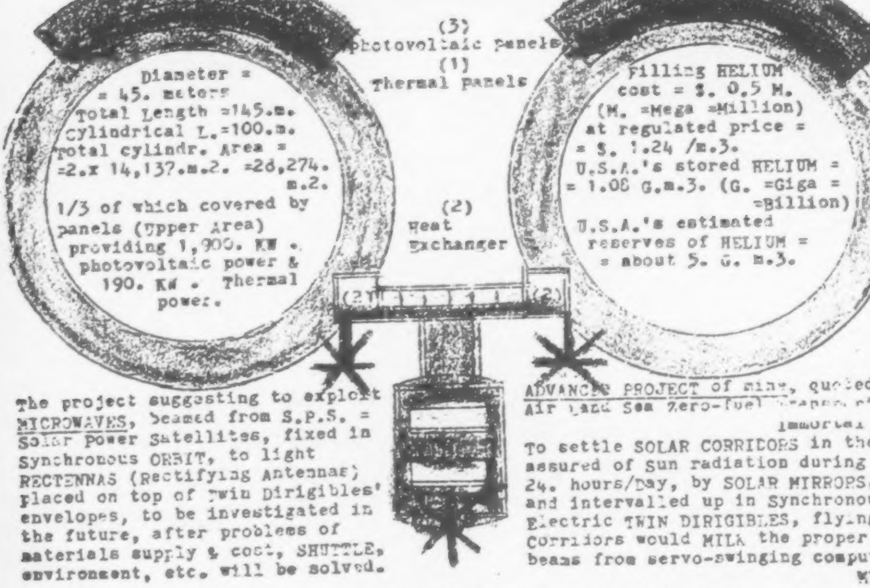
TWIN DIRIGIBLE s Volume = 414,000. m.3.- HELIUM lifting power = 377. metric Tons - Unlimited Range - Speed = 200 Km./hour - Capacity : over 400 passengers - Lifting power increased by Electric ROTORS powered by: 1,900. KW. photovoltaic panels (3) - 190. KW. Solar THERMAL panels (1) - FLYWHEELS of light composite material, as accumulators of energy and STABILIZERS -

Advanced project, claimed as INVENTION of mine : TWIN DIRIGIBLE s top to be changed into huge THERMO panels (1), by close double envelopes, under photovoltaic panels(3) HELIUM, enclosed in the interstitial cavity (1), severed from bulk of other Helium and heated by sun radiation filtering through panel (3), as well as by heat emitted from these photovoltaics (3), to provide so called Thermal Electricity. THERMO-COUPLE principle, as applied in certain Space-craft, would provide the easier way to extract Electricity from Thermo panels (1) Otherwise, hot Helium (1) to be RECYCLED to heat Exchanger (2) and here to heat other easily condensable GAS, this one to propel a Turbo-generator of Electricity

SOLAR THERMAL PANELS' EFFICIENCY
0.5 Kwh./
/m.2.xDay

PHOTOVOLTAIC PANELS' EFFICIENCY
5. KWh. /m.2.xDay





Diameter =
= 45. meters
Total Length =145.m.
cylindrical L.=100.m.
Total cylindr. Area =
=2.x 14,137.m.2. =28,274. m.2.
1/3 of which covered by panels (Upper Area) providing 1,900. KW . photovoltaic power & 190. KW . Thermal power.

Filling HELIUM
cost = $. 0.5 M.
(M. =Mega =Million)
at regulated price =
= $. 1.24 /m.3.
U.S.A.'s stored HELIUM =
= 1.08 G.m.3. (G. =Giga = =Billion)
U.S.A.'s estimated reserves of HELIUM =
= about 5. G. m.3.

The project suggesting to exploit MICROWAVES, beamed from S.P.S. = Solar Power Satellites, fixed in Synchronous ORBIT, to light RECTENNAS (Rectifying Antennas) placed on top of Twin Dirigibles' envelopes, to be investigated in the future, after problems of materials supply & cost, SHUTTLE, environment, etc. will be solved.

ADVANCED PROJECT of mine, quoted in the Air Land Sea Zero-fuel Transportation Immortal plan:

To settle SOLAR CORRIDORS in the sky, assured of Sun radiation during almost 24. hours/Day, by SOLAR MIRRORS, fixed and intervalled up in Synchronous ORBIT. Electric TWIN DIRIGIBLES, flying in Solar Corridors would MILK the proper reflected beams from servo-swinging computerized MIRRORS

Plan 3-phase of Transports' ELECTRIFICATION

(year 1975 project)

FIRST phase: Trolley expansion in Railroads, Metros, Highways.

SECOND phase: Wagon EUREKA's expansion, and gradients' utilization.

Summarizing: About 10 % of each run made up of a steep downgrade, to accelerate and reach TOP speed; 80 % of a light downgrade, to COAST at the reached top speed; 10 % of a steep upgrade, to decelerate or to stop.

Only in the final 10 % upgrade, to provide, either side pick-up of energy, or electro=magnetic propulsion from the ground: LINEAR synchronous motor, for example.

THIRD phase: Electro=magnetic suspension=propulsion of TRAINS, flying near ground surface, at 500. to 800. Km./hr.

ADVANTAGES of my projects' solutions, vs. conventional ones:

PROPULSION: 90 % FREE, through steep downgrade and light downgrade, with final 10 % upgrade assured by ground electro=magnetic field: thus a 0.5 G.Watt plant to propel about 20. flying Trains, instead of only 2. flying Trains in conventional, almost horizontal tracks.

SUSPENSION: 100 % FREE, above the free field, generated by a couple of CRYOGENIC cables, each one carrying 7000. and up Amperes, at highest densities: 200. to 300. Amps./m.m.2.

These cryogenic cables, refrigerated by liquid HELIUM (4. $K^{\underline{o}}$ = absolute degrees Kelvin), will be used by Power UTILITIES, for long distance transmission of electric energy.

The enormous amount of materials required by conventional solutions (COPPER windings, laid on the tracks' ground, all the way, or alternate solution of a continuous double-L-shaped ALUMINUM guideway = 200. metric tons of Aluminum per Km. of double track), limited by my solutions to only 10 % upgrade.

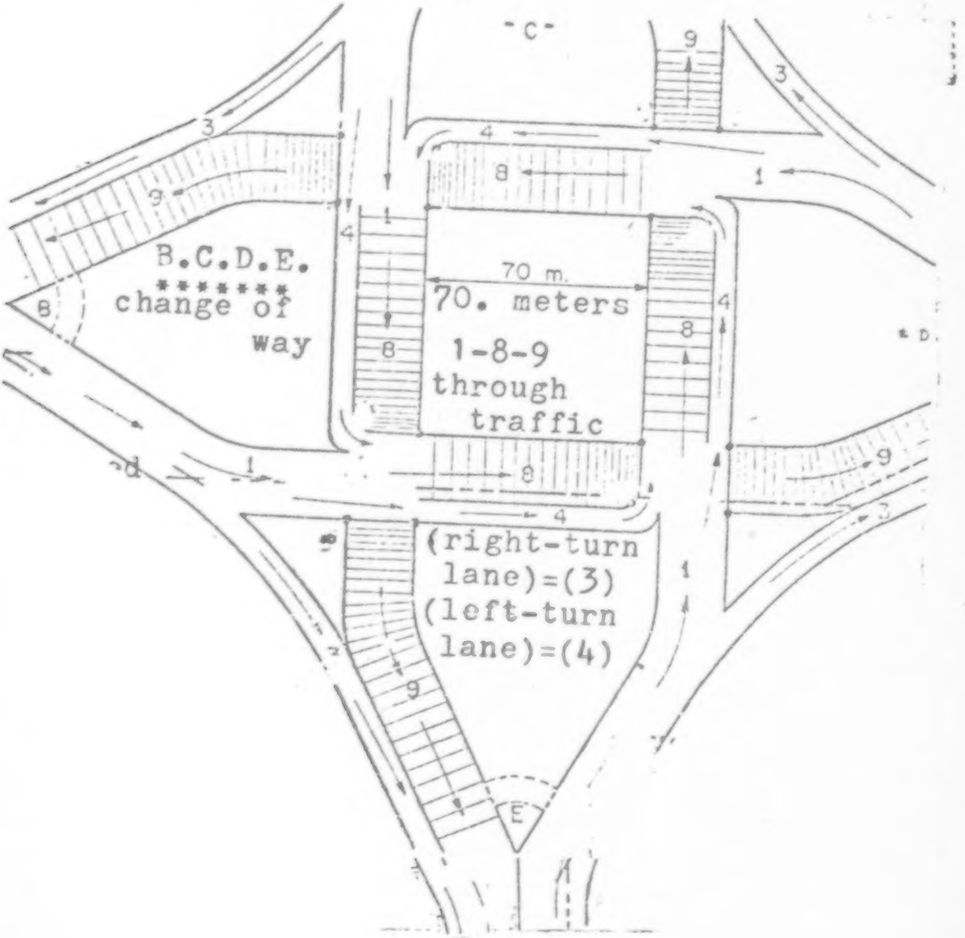
Plan 3-phase of Transports' Electrification's GOALS: ZERO-engine Vehicles - ZERO-locomotive Trains.- Gradients' utilization and Wagon EUREKA to transfer to tracks and roads the historical automotive function, until this time privilege of vehicles. Year 1992, to VETO manufacture and marketing of HEAT-engine vehicles.
Before year 1999, to CURB in the AIR lanes the traffic of JETS and other HTA. =Heavier-Than-Air craft, by flying TRAINS, over the near-ground electro=magnetic field, complemented, as in transoceanic air-traffic by TWIN-DIRIGIBLES : LTA. =Lighter-Than-Air craft.

To begin also the project required to condition planet VENUS and planet MARS, and to launch multiple PROBES, in order to complete our knowledge about their adverse environments.
To improve them, Next Century, a project of mine claims to reach great results in a Lapse of 50. years, vs. current plans of others, which require Genetic Engineering and lapses of 1,000. years. By my PROJECT :
-HIGH Temperature of Venus, corrected by SHADES in its synchronous Orbit.
-LOW Temperature of Mars, corrected by Solar MIRRORS in its synchronous Orbit.
-Atmospheres of both Planets, corrected by the ALCHEMY of LASER beams, fissioning CO.2. into C. and O2.; O.3. =Ozone; etc.
To focus on VENUS' size and gravity,
near Earth's ones, and on
Venus's slow rotation of 243. Days,
vs. Earth's one Day.

Immortal Principles: (4) Savings of energy - (5) Tunneling generalization - (6) Gradients' utilization - are Labor intensive, suited for immediate application, and appropriate to face CRISES deriving from unemployment, inflation, recession, vs. negative financial palliatives.
NEXT YEAR to begin application for example, by: TUNNELS beneath rivers, in lieu of BRIDGES - ATLAS interchanges, instead of CLOVER-LEAF ones UNDERPASSES at around 250,000. railroads grade==crossings to avoid every year thousands deaths, injuries, loss of goods etc. UNDERGROUND TRAFFIC

At.La.S. = Alternance Lanes System : yr. 1968 project of urbanization, without stopping lights, (uninterrupted traffic), and outline of a SEMI-UNDERGROUND City, proposed for consideration in the planning of Alaska's new Capital City: The experience achieved by this initiative could result useful to other areas of the Earth, as well as, next century, useful for Planetary settlements.

ATLAS INTERCHANGE compact, with at-level short right-turn and left-turn lanes, to replace in highways crossings costly, extended, landscape obstructing clover-leaf interchange, and to avoid in urban traffic, 4. stopping lights at the crossings of 2. couples of uni-directional contrary-way streets.


-C-
9
3
3
4
8
9
1
4
B.C.D.E.
change of way
8
70 m.
70. meters
1-8-9
through
traffic
8
4
D.
d
1
8
4
9
3
(right-turn lane)=(3)
(left-turn lane)=(4)
1
9
E

Mr. Antonine Lafata Sottile
Ph. Doctor of Engineering

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Projects, studies, articles and booklets :

Air Land Sea Zero-fuel Transportation
Immortal Plan (year 1979 English)

Project ARCHIMEDES (year 1977 English)

Plan 3-phase of Transports' Electrification
(year 1975 English)

Project of Leanway (a leaning subway) (English) 1974.
Project of "Automatic Spiral Lifter" (escalator) (English) 1970.
44 articles published on "Laser Beam" (Spanish) 1970.
Booklet on "Laredo City-planning and Economical Resources" (English) 1970.
Booklet on "The Laser and its Utilization" (Spanish) 1969.
Project of "Urban Traffic without Signal Controls" (Spanish and English) 1968.
Project of "Alternal Leaning Subway" (Spanish and English) 1966–68.
Technical books translated from English and French into Spanish (Spanish) 1967.
Compendium of "Public Works in the Paris Region" (French) 1964.
Booklet on "Electrical Installations in a Nitrogen Factory" (Italian) 1943.

RESUME'

****

February 21, 1971 to present in Washington, D.C. area—Researching on Subway and other fields.

1970 in Laredo, Tex.—Divising a new system of mechanical spiral escalator.

1968–1970 in Mexico City U.N.A.M. University.—Researching and lecturing on Laser beam.

1967 in Mexico City Secretary of Public Works.—Devising a new system of urban traffic, without signal controls.

1965–1966 in Santiago, Chile Ministry of Public Works.—Devising a new system of subway.

1958–1965 in Paris, France Ministry of Public Works.—Statistics and planning of public works in the Paris region.

1954–1957 in North Africa Public Works.—Construction of roads in Algeria and Morocco.

7 years in a company synthesizing ammonic by-products in Italy.—Chief of Electrical and Electrolysis Departments, Manager of factories, Vice-director in the Rome general direction.

INVENTIONS

****

Twin-Dirigibles (LTA.=Lighter-Than-Air craft)
- year 1980 -

New kind of Subway car: Wagon "Eureka", 1974.
New system of automatic spiral lifter, 1970.
Laser beam devices to detect fire, gases, earthquakes, etc., 1969.
New system of urban traffic without signal controls, 1968.
New system of metropolitan subway, 1965.

Foreign languages

French, Spanish, Italian (Excellent) Speak, read, write, understand.
German (Fair) Speak, read, write, understand.

High level knowledge

Mathematics, Physics, Laser, Electrotechnics, Subway, Roads, etc.

ADDITIONAL PREPARED STATEMENTS

Senator JOHNSTON. The staff informs me that several additional prepared statements on energy matters have been submitted to the subcommittee. If there is no objection, they will be made part of the record at this point. We will also try to incorporate at this point any additional statements received prior to the closing date for submitting testimony.

[The statements follow:]

Statement of Robert G. Lacy, Manager, Herber Binary Project, San Diego Gas & Electric Co.

Mister Chairman and Members of the Subcommittee, my name is Robert G. Lacy, the Project Manager of the Heber Binary Project, sometimes referred to as the "second demonstration". The Project is a 65 Mw (gross) binary cycle power plant. It will be the first commercial-scale binary demonstration of its kind in the world. As Project Manager, I am responsible for the design, construction, start-up, and demonstration of the Project.

I am a registered professional engineer in the State of California. I am a member of the American Society of Mechanical Engineers, and a member of the Board of Directors of the Geothermal Resources Council. I am also a member of the Advanced Power Systems Division Committee for the Electric Power Research Institute (EPRI).

I would like to express my appreciation for the leadership role played by Congress and, in particular the Senate Committee on Appropriations, in support of the Project.

This statement will discuss the importance of the binary process to the development of geothermal resources and the urgent need to demonstrate this new technology. It will also stress the importance of federal funding and the minimal burden on the federal government in view of the existing Cooperative Agreement with DOE. Finally, I will explain the unacceptable consequences that withdrawal of federal funds would have on the Project and geothermal development in general.

When this Subcommittee reviews federal funding for the Heber Bianry Project the following points must be considered:

1. The Interagency Geothermal Coordinating Council has established the goal of 25,000 Mw of electric capacity from hydrothermal reservoirs by the year

2000. This would obviate the need for 340 million barrels of oil each year. The undemonstrated binary process would need to account for at least half of that 25,000 Mw and could account for all 25,000 Mw.

2. The only currently available state-of-the-art technology for electric porduction from hydrothermal resources is the flash process. This process has an adverse impact on the environment through the release of noncondensable gases. The thermal efficiency of the flash process limits its application to only 1/5 of potential U.S. resources.
3. The binary process promises to be environmentally sound, economic, and have a broad applicability based on a 30% greater thermal efficiency. It must be demonstrated on a commercial scale before the electric utility industry can fully utilize hydrothermal or Hot Dry Rock energy resources.
4. The private sector has already made a large investment in, and financial commitment to, the Project and will pay at least fifty per cent of the Project costs.
5. The Cooperative Agreement between DOE and SDG&E provides that DOE is not liable for cost overruns, and that government contributions will be repaid through revenue sharing. The Agreement also provides for broad dissemination of Project data to industry.
6. Documented efforts have shown that the private sector, particularly the electric utility industry, cannot alone fund this "breakthrough" project. Withdrawal of federal funding would ensure abandonment of the Project. Goals for geothermal development by the year 2000 and offset of oil consumption would not be met.

SDG&E BACKGROUND IN BINARY CYCLE DEVELOPMENT

SDG&E has conducted geothermal exploration, research, and field test development since early 1971. As a result of geothermal well drilling performed in the early 1970's and further drilling and testing done in 1976, we identified three promising reservoirs in the Imperial Valley of California. These are located at the south end of the Salton Sea near Niland, south of El Centro near Heber, and east of Hotville at East Mesa. Two of these, Heber and East Mesa, are prime candidates for development using the binary process. The attached map (Figure 1) shows the location of these reservoirs. About 75 reservoirs with potential for electric power generation in the United States have also been identified.

SDG&E began conducting field loop tests applicable to binary technology at Niland in 1973. Small-size heat exchangers, with the hot, highly mineralized brine flowing directly through the tubes, were used to heat a working fluid. These tests revealed the high scaling tendencies of the Niland brines, and the company set about to develop ways to overcome this problem In 1974, the multi-stage flash/binary system was designed. It removed heat from the geothermal fluid in the form of steam. Based upon field tests of this system and under a 50-50 cost sharing arrangement with DOE, SDG&E built and operated a 10 Mw Geothermal Loop Experimental Facility (GLEF) to evaluate the potential of the reservoir and the practicality of the flash/binary conversion process.

Valuable experience, of direct benefit to the Heber Binary Project, was gained through the design, construction and operation of the GLEF. Special construction techniques were employed for the desert soil and weather conditions of the Imperial Valley. Operational problems, such as high injection well pressures, scale deposition, and erosion of plant piping and components were identified and overcome.

The GLEF also provided insight into plant cleaning operations and reservoir performance and furthered the development of important plant components.

To determine scaling characteristics of the Heber brine, SDG&E, in cooperation with EPRI and Chevron Resources Company, conducted heat exchanger tests at this reservoir in 1974. These tests consisted of a series of 500-hour runs with four small heat exchangers and three different tube materials. The results of these tests were published in EPRI Report ER-376, "Final Report of Test and Evaluation of a Geothermal Heat Exchanger", September 1975.

EPRI followed up the first 500-hour heat exchanger test with a 2000-hour test, which verified the findings of the first scaling and corrosion tests. The quantity of noncondensable gas in the brine was also determined. Results of this test were published in another EPRI Report ER-572, "Final Report of Geothermal Heat Exchanger at Heber, California", August 1978. Data from the testing program formed the basis for full-scale design criteria for the Heber Binary Project.

NEED FOR BINARY DEMONSTRATION

The utility industry has only the flash process available to be used to develop liquid-dominated hydrothermal reservoirs. With the flash cycle, the hot geothermal fluid flows under pressure to a vessel where the fluid is allowed to boil, or flash, to produce steam. The steam then runs the turbine in a conventional manner. The flash cycle is proven and has been in commercial geothermal operations for many years. Its use, however, is limited to high temperature (over 210°C) reservoirs.

The flash cycle is effectively ruled out at moderate-temperature (below 210°C) reservoirs. It is not practical to flash the geothermal fluid at pressures lower than atmospheric; thus, the geothermal fluid will leave the plant at about 100°C, taking with it much of the heat that would be converted to electricity if flashing could occur at subatmospheric pressures. A second limiting factor is that more than two stages of flash are not cost effective, and in practice, the geothermal fluid may leave the plant at a temperature higher than 100°C. A third limitation is that if the geothermal fluid is flashed at low pressures, the turbines using this low pressure steam must be large and therefore expensive. Finally, noncondensable gas in the flashed steam could impose severe economic penalties by requiring large amounts of power for its removal. The release of noncondesnable gases, often containing hydrogen sulfide, to the atmosphere also results in adverse environmental impact.

To overcome the limitations of the flash cycle we must develop the binary process. This concept uses heat exchangers to transfer heat from the hot geothermal fluid to another liquid known as the working fluid. The working fluid is heated and vaporized and then used to drive the turbine to produce electricity. The advantage of this approach is that a working fluid can be selected which has a boiling point equal to the prevailing temperature, either high or low, of the geothermal resource. The amount of energy production is limited only by the ambient air temperature. This flexibility allows us to generate electricity from the moderate-temperature reservoirs and improve resource utilization at higher temperature reservoirs. The binary process has been used on a small scale in other industries, but has not yet been developed for full-scale commercial power generation. The 5 Mw Raft River Project and the 10 Mw Magma Project are pilot plant efforts to generate electric energy. Although helpful, these projects cannot be relied upon by the utility industry to make decisions for commercial-scale power plants. Our objective with the Heber Binary Project is to demonstrate the binary technology and associated turbines and hardware. Simplified flow diagrams for the flash cycle and binary process are shown in Figure 2.

The binary process must be developed because hydrothermal reservoirs are not uniform. Reservoirs are different in size, temperature, dissolved solids, heat content, and chemical composition. Therefore, a single technology will not satisfy the requirements of full-scale geothermal development. Indeed, the lack of reservoir heat consistency suggests that binary is best for all electric utilization.

To gauge the importance fo the binary process, about four out of five hydrothermal reservoirs in the United States are moderate-temperature reservoirs and will require the binary process for both technical and economic reasons. Furthermore, if, as expected, reservoir temperatures decline with time, the need for the binary process will become even greater.

Another way of gauging the relative need for the binary process is to examine the total electric production that can be developed from hydrothermal reservoirs. Last June the Interagency Geothermal Coordinating Council, chaired by DOE, established the goal of 25,000 Mw of electric capacity from hydrothermal reservoirs by the year 2000. This obviates the need for about 340 million barrels of oil each year. The binary process would need to account for at least half of that goal. In fact, the binary process could account for all of the 25,000 Mw because it is applicable to all reservoirs over the entire spectrum of reservoir temperatures. The flash cycle, on the other hand, is applicable to only high temperature reservoirs.

The binary process also provides other potential advantages, such as greater efficiency of energy extraction, and elimination of steam carryover problems. Such advantages could make the cost of construction and operation of a binary process plant lower than the cost of a similarly-sized flash plant, significantly reduce the amount of energy required to operate the plant, and minimize its environmental impact.

The Heber Binary Project is essential to advance the state-of-the-art to commercial maturity and to further develop binary process power plant components. To demonstrate the commercial viability of a binary process geothermal plant, turbines and other systems must be manufactured, tested, and operated. Commercial size (about 50 Mw) hydrocarbon turbines must be designed and fabricated. Although preliminary designs for commercial-size binary turbines have been prepared, they have never been built or operated; the largest one built to date is about 5 Mw. Other areas where development or verification must be accomplished prior to commercial application include downhole well pumps; plant and component reliability; safety and environmental impacts; heat exchangers; working fluid characteristics; waste control technology, such as cooled brine reinjection; and plant operating procedures and performance.

THE BINARY CYCLE IS ESSENTIAL TO COMMERCIALIZATION OF HOT DRY ROCK

Hot Dry Rock resources will not be used by the electric utility industry unless the binary process is demonstrated on a commercial scale. A Hot Dry Rock resource is defined by DOE as heat stored in rocks that contain little or no water. The lack of sufficient water to transport heat distinguished Hot Dry Rock from naturally occurring hydrothermal reservoirs.

Hot Dry Rock resources occur throughout the United States in extrememly large quantities. Los Alamos Scientific Laboratory has estimated that if as little as 2% of this vast resource base could be exploited, it would supply the entire country's nontransportation needs at the present rate of consumption for more than 2000 years.

To extract energy from a Hot Dry Rock resource, a manmade hydrothermal reservoir is formed by connecting two deep holes in impermeable rock through a system of fractures in the rock which are produced by pressurizing water. Cold water flows down the deeper hole, is heated by the hot rock in the underground fracture system, and is brought to the surface in the second hole as superheated water under sufficient pressure to keep it from boiling or flashing. After the hot water runs through a heat exchanger at the surface, it is pumped back down the injection hole. Because the hot water is kept under pressure, the only way to use its heat is to transfer it to a working fluid in a heat exchanger. This constraint dictates the use of the binary process if the heat is to be used to generate electric power.

Continued federal funding in Fiscal Year 1982 is proposed for the DOE Hot Dry Rock Program. The current schedule for the Program could lead to commercial power plant decisions by the electric utility industry by the late 1980's. This schedule is compatible with the schedule for the Heber Binary Project. If the binary process is not demonstrated on a commercial scale, however, continued research in Hot Dry Rock is irrelevant for electric applications.

HISTORY OF THE HEBER BINARY PROJECT

The Heber Binary Project had its beginning in a study performed for EPRI by Holt/Procon. The purpose of the study was to evaluate alternate technologies that could exploit the extensive low- to moderate-temperature geothermal reservoirs in the United States. The study also screened 17 candidate reservoirs to determine which would be best to demonstrate the selected technology on a commercial scale. The results of the study were published in 1976 and 1978 as EPRI Reports ER-299, "Geotechnical Environmental Aspects of Geothermal Power Generation at Heber, Imperial Valley, California", October 1976; ER-301, "Geothermal Energy Conversion and Economics--Case Studies", November 1976; ER-364 "A Comparison of Hydrothermal Reservoirs of the Western United States", December 1976; and ER-670, "Preliminary Design Manual for a Geothermal Demonstration Plant at Heber, California" February 1978. The study concluded that the binary process showed great promise for application to low- to moderate-temperature reservoirs, and that the Heber reservoir was the best site to demonstrate the technology on a commercial scale.

In 1977, SDG&E agreed to manage a demonstration project with a capacity of 65 Mw (gross) that would be located on the Heber reservoir. This decision was based on SDG&E's extensive geothermal experience and EPRI's supporting work. Consequently, a project was formed with participation by SDG&E, ERPI, six other utilities, two reservoir developers, and the California State Energy Commission. Engineering and environmental studies were initiated and efforts were made to obtain federal funding for the portion of project costs that could not be financed by industry. In 1978, despite a Congressional appropriation, the Administration failed to obligate funds and, because the risk of this first-of-a-kind project was greater than industry could assume, the project was terminated.

In 1979, when Congress directed DOE to proceed with the demonstration of a commercial-scale binary process, SDG&E again submitted a project proposal. This proposal was accepted by DOE, and in September 1980 the parties signed a Cooperative Agreement. Other agreements to carry out the newly-formed project have been signed with EPRI and a group of three utilities: The Imperial Irrigation District, California Department of Water Resources, and Southern California Edison Compnay. A contract has been signed with Fluor Power Services to perform the engineering design work for the Plant. A geotechnical services contract has also been signed with Fugro, Inc.

It is important to note that substantial progress has been made on the Project--all of it, approximately $26 million, funded by the private sector. For instance:

1. Extensive reservoir exploration and evaluation is complete.

2. The plant conceptual design is in place.
3. A number of engineering trade-off studies have been performed.
4. Turbine-generator conceptual designs have been completed.
5. Environmental studies are complete.
6. A land use permit has been obtained from Imperial County.
7. The site has been acquired.
8. An assured source of cooling water has been acquired.

PROJECT ORGANIZATION AND FUNDING

SDG&E has formed a consortium to fund and operate the Project. The contributions to funding interests and ownership interests of the six participants are as follows:

PARTICIPANT	FUNDING	OWNERSHIP
Department of Energy	50.0%	---
Electric Power Research Institute	10.0%	---
San Diego Gas & Electric	32.8%	86.3%
Imperial Irrigation District	4.0%	10.5%
Department of Water Resrouces	1.2%	3.2%
Southern California Edison	2.0%	---

SDG&E is responsible for managing the Project, including its design, construction, start-up, and demonstration. We will manage the Project to the maximum extent possible as if it were a commercial power plant. In this way, we will have a good chance of completing the Project on schedule and with a greater likelihood that it will be commercially successful.

FEATURES OF THE COOPERATIVE AGREEMENT THAT ARE FAVORABLE TO THE GOVERNMENT

The Cooperative Agreement differs from other more conventional contracts used by DOE to fund projects. It recognizes that the Heber Binary Project is a partnership, with the private sector bearing a significant part of the risks. It permits the Project to be managed by the private sector with minimal burden on DOE.

The goal of government involvement should be to advance the time when the binary process will be available for commercial use. This goal can be achieved with the Heber Binary Project because the private sector has a large financial interest in the Project and, consequently, a great incentive to achieve success.

Some of the key features of the Cooperative Agreement that are favorable to the government include:

1. A revenue sharing provision which will return to DOE the government cortribution if the demonstration power plant is successful and can be operated as a commercial facility.
2. A ceiling on government financial exposure so that if the cost ceiling is exceeded, the government has no liability for cost overruns.
3. Provisions for the broad dissemination of data from the Project to industry so that others interested in making commercial commitments to the binary process can do so with minimal risk.
4. The development of data and information for DOE which are important to the realization of national energy goals.

EFFECT OF DOE WITHDRAWAL

SDG&E, like the rest of the utility industry, is experiencing financial constraints that prevent if from undertaking completely on its own a demonstration power plant like the Heber Binary Project. By law, SDG&E is required to meet the needs of its existing and future customers; consequently, its scarce financial resources must be used to add commercial generating plants nad related transmission lines and to accomodate new customers on its system. With the special approval of the California Public Utilities

Commission, we have reallocated our limited R&D budget to provide our share of the funds to the Heber Binary Project. SDG&E cannot provide additional funds.

Furthermore, the company does not believe that the $61 million shortfall that would result if federal funds were not provided to the Project could be replaced by industry or other Project participants. In 1978 when federal funding for the Project was not granted, SDG&E and EPRI canvassed the utility industry in an effort to replace what was then a much smaller shortfall; these efforts were unsuccessful. In 1979, SDG&E again tried unsuccessfully to obtain additional financial participation. The electric utility industry cannot fund demonstration projects on its own. We are having enough difficulty obtaining the capital needed to meet our customers' needs using proven technology. The non-federal funding which we now have for the Project is the maximum we can obtain. While industry is united in its support and need for the Project, sufficient additional funding is simply not available to permit the Project to go forward without federal support.

Without federal funding this essential Project will be abandoned. The likelihood of its being resurrected and completed in the near future is negligible. As a result, four out of five hydrothermal reservoirs in the United States will not be developed.

CONCLUSION

In conclusion, I urge this Subcommittee to again demonstrate your continued support for the Heber Binary Project. Funding in Fiscal Year 1982 is essential if the Project is to proceed. Justification for your continued support includes:

1. Binary process is the only way to achieve at least half of DOE's 25,000 Mw goal and the resulting offset in oil use.
2. The binary process is an environmentally desirable source of electricity.

3. The binary cycle is *essential* to the commercial development of Hot Dry Rock energy resources.
4. The Cooperative Agreement between DOE and SDG&E is beneficial to the government.
5. Industry has already made a large financial commitment to the Project.
6. The Project *cannot* proceed without continued federal funding.

LOCATION OF IMPERIAL VALLEY GEOTHERMAL RESERVOIRS

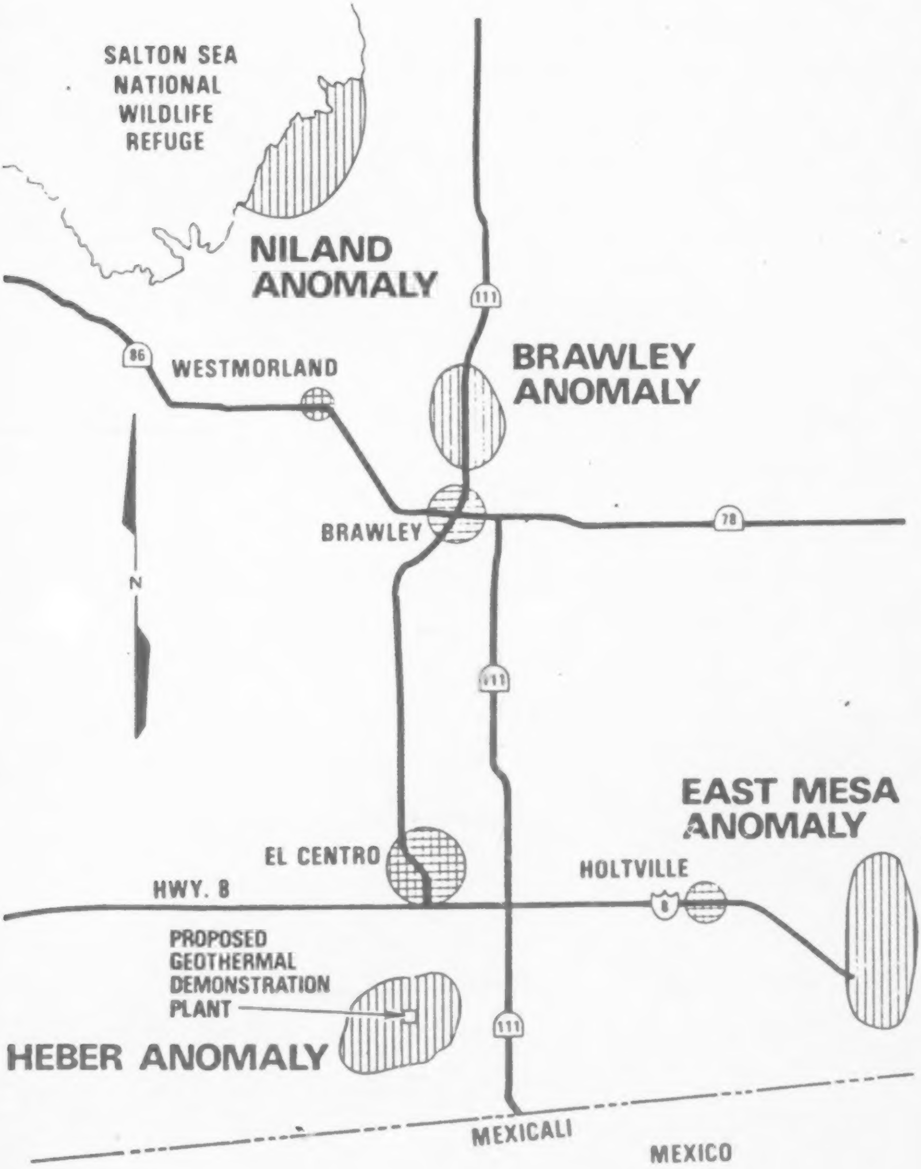

SALTON SEA
NATIONAL
WILDLIFE
REFUGE
NILAND ANOMALY
111
86
WESTMORLAND
BRAWLEY ANOMALY
BRAWLEY
78
N
111
EAST MESA ANOMALY
EL CENTRO
HOLTVILLE
HWY. 8
8
PROPOSED
GEOTHERMAL
DEMONSTRATION
PLANT
111
HEBER ANOMALY
MEXICALI
MEXICO

Figure 1

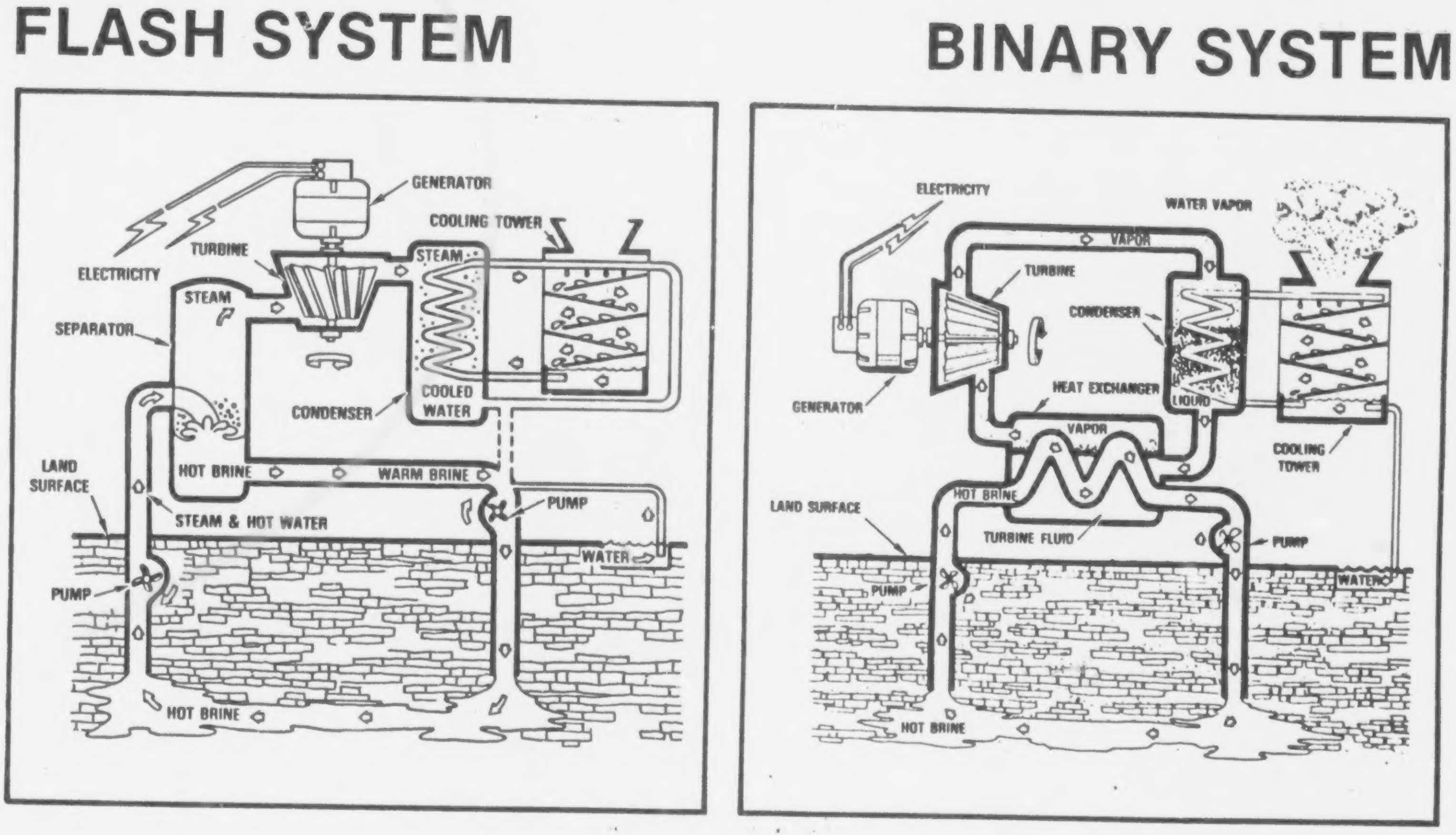

FLASH SYSTEM
GENERATOR
COOLING TOWER
TURBINE
STEAM
ELECTRICITY
STEAM
SEPARATOR
CONDENSER
COOLED WATER
LAND SURFACE
HOT BRINE
WARM BRINE
PUMP
STEAM & HOT WATER
WATER
PUMP
HOT BRINE
BINARY SYSTEM
ELECTRICITY
WATER VAPOR
VAPOR
TURBINE
CONDENSER
GENERATOR
HEAT EXCHANGER
LIQUID
VAPOR
COOLING TOWER
HOT BRINE
LAND SURFACE
TURBINE FLUID
PUMP
PUMP
WATER
HOT BRINE

Figure 2

STATEMENT OF DR. RONALD D. DOCTOR, EXECUTIVE DIRECTOR, WESTERN SOLAR UTILIZATION NETWORK

Executive Summary

--Consumers have been hard-hit by high energy prices and inflation. There is a real need for near-term efforts able to reduce the impact of energy costs through the marketplace. Conservation and renewable resource technologies offer that near-term solution.

--Barriers exist to free market operation in the conservation and renewable resource areas, including:

— Inconsistent and conflicting data and information regarding current and projected energy prices, the extent to which we need to accelerate the use of renewables, cost, availability and reliability of renewable resources and the equipment required to use them, and a relative unfamiliarity with renewable resource products and their history of use.

-- Existing practices and regulatory mechanisms that favor business-as-usual use of conventional fuels over renewables and conservation. These include:

- — the renter/owner dichotomy: renters are transient and not inclined to make capital improvements in property they don't own. Owners have little incentive to make capital improvements which would reduce fuel bills that they don't pay.
- -- building codes, zoning practices, tract design and legal uncertainty regarding solar access all predate the recent need for renewables (solar) and conservation and have elements that inhibit rapid implementation.
- -- lending practices on new and existing buildings tend to ignore the reduced operating cost benefits that make solar and conservation homes more affordable. Lenders are reluctant to consider "new" factors in determining who qualifies for loans.

-- Erroneous price signals to consumers resulting from use of average instead of avoided costs in ratemaking practices, declining block rates for electricity and gas and unequal subsidies for conventional fuels relative to renewables and conservation.

Western SUN has been working to clear the way for free market operation by the solar industry. Our activities fill the gap between federal programs that are too centralized and remote from real local needs and local programs that often suffer from a lack of expertise and knowledge as to experiences elsewhere. Western SUN, then, offers states and localities supporting programs that are more effectively handled on a centralized basis but that serve decentralized implementation needs:

--A real need exists for near-term Federal energy actions. Conservation and Solar provide effective mechanisms for reducing the impact of high energy prices, but non-economic problems and marketplace distortions retard their effectiveness. The developing solar industry needs Federal, regional, and state assistance in the next few years to offset the effect of such barriers as building codes, lending practices, and erroneous price signals from average cost energy rates.

--At Western SUN and the other Regional Solar Energy Centers, we have recognized that the best and most long-lasting results will be obtained by free and equitable operation of the marketplace. We are working with private industry, states, and local governments to create region-wide programs able to reduce those barriers that inhibit free market operation with regard to energy.

--The Regional Solar Energy Centers fill the gap between Federal programs that are too centralized and remote from real local needs and local programs that often suffer from a lack of expertise and knowledge as to experiences elsewhere. We offer states and localities supporting programs that are more effectively handled on a centralized basis but that serve decentralized implementation needs. Our presence strengthens the infant solar industry while coordinating state and local efforts across the region.

My name is Ron Doctor. I have been Executive Director of the Western Solar Utilization Network (Western SUN), one of four Regional Solar Energy Centers, since January 19 of this year. Prior to joining Western SUN, I served as a California Energy Commissioner for six years. My principal focus at the Commission was developing California into a national showplace for renewable resources and conservation applications--a goal I feel we met.

Before joining the Commission, I was with the Rand Corporation in Santa Monica, California, for eight years. At Rand, I worked on a variety of public policy projects, including energy projects, which led to the Warren-Alquist Act. That Act, signed into law by then-Governor Reagan, created the California Energy Commission in January 1975.

My interest in joining Western SUN is easily defined: private enterprise, utilities, states and local governments must have Federal assistance to expedite the use of renewable resource technologies. That help must be carefully tailored to the specific needs of each group. While centrally-managed national programs have developed broad-brush approaches, regional centers are both accessible and sensitive to the local businessman and the state official. Western SUN, in particular, is unique.

Let me briefly describe how we approach our mission and why that mission continues to be important to the accelerated adoption of renewables.

Western SUN was formed through an interstate compact by the Governors of the thirteen Western States. In this sense Western SUN is quite different from the other three regional centers. Our mission is to serve the states and the businesses within them in their efforts to produce solar sales within their jurisdictions. At present, we are entirely funded by DOE through their active, passive, and other program managers as are the other three Centers. With this funding, Western SUN provides 13 Western States with centralized coordination and services for decentralized state and local implementation of solar programs.

When I came on as Western SUN's Executive Director in January, our activities were centered around information and education projects. Although these outreach activities had the status of primary projects, I believe they are best viewed as support activities. That is, an outreach activity should not be an end in itself, but rather should be part of a more substantive program that will help industry produce solar sales. Business activity, sales and consumer satisfaction must be at our bottom line; these are the results by which our success should be measured. In the two months I have been at Western SUN, I have shifted our emphasis in this direction. We are in the process of building cooperative ventures between our states and the businesses operating within them. We have no regulatory authority. Instead, we are focusing on five program areas: Solar Industry Development, Local Government Assistance, Utility and Lender Financing, Builder Training and Communications Programs (further descriptive material in Appendix A).

We have recognized that the best and most long-lasting results will be obtained by free and equitable operation of the marketplace. We have also recognized that at present there are significant barriers in the way of free market operation with regard to energy. We have designed our programs to reduce those barriers that inhibit operation of a free market economy in solar; we are working to clear the way for successful solar industries in today's marketplace. Our goal is to have at least 20% of the energy needs of the Western States supplied with renewable energy sources by the year 2000.

During our first year and half, our staff conducted or sponsored 179 workshops and conferences attended by 360,000 participants from the business community. At the request of industry, we are producing a large number of reports, brochures, guides and workbooks. In particular I want to bring to your attention the state and local focus of these materials: (1) the Solar and Weather Information series has one volume for each state; (2) the "Solar Business Directories" and "Business Desk Guides" are tailored to each state; (3) the "Washington Passive Solar Design Handbook" and the "Washington Passive Solar Design/Build Competition Workshop Manual" are examples of publications produced for specific in-state programs; (4) the Solar Homebuilders Program Packet was produced for a joint project between BPA, Western SUN, Northwest Homebuilders Associations and the four northwestern states to produce passive solar, affordable housing--Western SUN is operating this program, and; (5) the Homeowners Guide, almost ready for publication, which will be distributed free to 150 selected communities. Ninety percent of the information in the Guide is generalized. The other 10% will be produced by each locality and will be tailored to local conditions. Complete instructions on how to produce this 10% are included in kit form. We provide camera-ready, typeset copy and illustrations. These items provide good examples of how centralized regional operations can provide services for decentralized applications of specific programs.

The need for this kind of effort is currently being questioned. An assertion is being made that Federal assistance to the renewable resource industry is no longer necessary. Decontrol of fossil fuel prices and continuation of solar tax credits are said to provide the only stimulus needed for the expanded use of renewables. This assumption--that price is the only barrier to renewables--is far too simplistic.

In fact, complex institutional barriers are discouraging adoption of renewables to a much greater degree than price differentials. As in energy conservation--where $34 to $39/barrel oil continues to be purchased when conservation practices cost $6/barrel--free market operations are being constrained by non-economic mechanisms and by distortions in the marketplace that have built up over the past 30 to 50 years. These distortions cannot be quickly corrected simply by allowing prices to rise.

I know this Committee is well-versed in the various reports on energy. Wherever renewables are discussed, state and local problems of building codes, legal uncertainty of solar access, utility pricing policies, lender reluctance to finance new technologies, and installer warranty/consumer assurance issues are given the same weight as price. The infant renewable resource industry faces these challenges every day. Without outside assistance, I believe it will take 8 to 10 years or more before the industry has the financial strength to dismantle those barriers.

That is where Western SUN and the other centers find their roles. We provide assistance to the industry in dealing with state and local problems. This accelerates the rate of industry growth and renewable resource adoption. I suggest to you that the 8 to 10 year time frame for widespread acceptance and use can be compressed to a 2 to 5 year period through decentralized regional center programs.

I might add that the General Accounting Office agrees with that last observation. In their comprehensive study of SERI and the regional centers released last August, they stated:

> It is also clear that the successful development and commercialization of solar energy, and ultimate attainment of the 20 per cent goal, will require optimum use of these organizations.

Now let me turn for a moment to a question that I know is on your minds: What do the RSECs provide that the free market does not? I noted earlier that there are several barriers to free market operation. These barriers include:

o Inconsistent and conflicting data and information regarding current and projected energy prices, the extent to which we need to accelerate the use of renewables, cost, availability and reliability of renewable resources and the equipment required to use them, and a relative unfamiliarity with renewable resource products and their history of use.

- Existing practices and regulatory mechanisms that favor business-as-usual use of conventional fuels over renewables and conservation. These include:

  --the renter/owner dichotomy: renters are transient and not inclined to make capital improvements in property they don't own. Owners have little incentive to make capital improvements which would reduce fuel bills that they don't pay.

  --building codes, zoning practices, tract design and legal uncertainty regarding solar access all predate the recent need for renewables (solar) and conservation and have elements that inhibit rapid implementation.

  --lending practices on new and existing buildings tend to ignore the reduced operating cost benefits that make solar and conservation homes more affordable. Lenders are reluctant to consider "new" factors in determining who qualifies for loans.

- Erroneous price signals to consumers resulting from use of average instead of avoided costs in ratemaking practices, declining block rates for electricity and gas and unequal subsidies for conventional fuels relative to renewables and conservation.

Western SUN has been working to clear the way for free market operation by the solar industry. Our activities fill the gap between federal programs that are too centralized and remote from real local needs and local programs that often suffer from a lack of expertise and know ledge as to experiences elsewhere. Western SUN, then, offers states and localities supporting programs that are more effectively handled on a centralized basis but that serve decentralized implementation needs:

--Coordination: Transfer real experiences from one state or locality to another (e.g., builders experiences, trade association formation).

--Common methodology (but local data) for economic analyses; experience with arguments raised.

--Rotating displays, seminars, workshops.

--Common needs for educational materials, curricula, training programs.

--Common needs for consumer assurance programs.

--Centralized production and distribution of reports.

--Experience on utility issues: PURPA, rebates, financing.

--Experience with local government ordinances, e.g., solar access, tract layout, etc.

--Transfer of activities from one state or locality to another.

--Coordination with National organizations: SEIA, NAHB, AIA, ISCC, SRCC, CABO.

--Coordination with other Federal energy programs (see Appendix B).

These all reduce unnecessary duplication of activities and help the free market to operate more effectively and more quickly than it would in the absence of the regional centers. This, in turn, will save money for consumers and businessmen and will more rapidly reduce our reliance on OPEC oil.

The same arguments apply to conservation and lead me to suggest to you that instead of following the Administration's move to eliminate the RSECs, you might consider expanding their activities to include conservation as well as renewable resources. Conservation and solar go hand-in-hand. Congress showed considerable wisdom and foresight in creating the conservation and solar program. It is unfortunate that these Congressional programs which are so critical to individuals and businessmen alike, and which are so essential to our national security, now are threatened by an Administration which in other areas seeks to bolster national defense.

In closing, I would like to suggest three points for the Committee to consider as you review the solar budget in general and field programs in particular:

--A real need exists for near-term Federal energy actions. Conservation and Solar provide effective mechanisms for reducing the impact of high energy prices, but non-economic problems and marketplace distortions retard their effectiveness. The developing solar industry needs Federal, regional, and state assistance in the next few years to offset the effect of such barriers as building codes, lending practices, and erroneous price signals from average cost energy rates.

--At Western SUN and the other Regional Solar Energy Centers, we have recognized that the best and most long-lasting results will be obtained by free and equitable operation of the marketplace. We are working with private industry, states, and local governments to create region-wide programs able to reduce those barriers that inhibit free market operation with regard to energy.

--The Regional Solar Energy Centers fill the gap between Federal programs that are too centralized and remote from real local needs and local programs that often suffer from a lack of expertise and knowledge as to experiences elsewhere. We offer states and localities supporting programs that are more effectively handled on a centralized basis but that serve decentralized implementation needs. Our presence strengthens the infant solar industry while coordinating state and local efforts across the region.

WESTERN SUN PROGRAM PRIORITIES

UTILITY AND LENDER FINANCING

Utility Financing Workshops:	To bring together representatives of the PUCs, major utilities and Western SUN state and Portland staff to examine the options available to utilities to finance a solar loan program, with the emphasis on the California experience of public utility solar financing. Follow through after the workshops will include technical assistance in assessing potential projects for funding to financial institutions, industry assistance in packaging their projects to insure consideration by possible funding sources, etc.
Biomass Financing Workshops:	The Biomass Financing Workshop, at present awaiting a funding decision from DOE Region X, will bring together major industry decision makers and lending institutions. Follow through activities are similar to the above workshops.
Lender Financing Reform:	Work with lending institutions to create loan assurances to encourage purchase and construction of solar homes. Such lending reform would include placing incremental down payments in the mortgage balance, taking account of reduced monthly payments in determining who qualifies for loans, etc.
Venture Capital Brokering:	Locate and catalog new sources of venture capital (pension funds, temporarily unavailable funds, insurance company funds, private lenders) and work to bring them together with undercapitalized but otherwise stable firms.

LOCAL GOVERNMENT ASSISTANCE

Local Government Commissions:	Establish at least two more in the region. These commissions are usually composed of local government
Ordinance and Policy Development:	Western SUN will update the material in "Capturing the Sun's Energy: Opportunities for Local Government" by identifying and collecting all ordinances, codes and policies in the Western region and including them. Once the barrier and ordinance identification has taken place, state specific programs will be developed to remove impediments to the free market and accelerate the implementation of ordinances and land use policies.
Barrier Removal and Ordinance Development:	Through contact with local Solar Energy Industry Associations and key solar contractors, Western SUN will identify what types of specific problems they are having with local governments (e.g., antiquated building/zoning codes, unreasonably expensive inspection fees, long permit delays, inexperienced building inspectors, conflicting requirements) and where these local governments are located.
Municipal Solar Utilities:	Test a study completed in California to develop a municipal solar utility aimed at accelerating the use of renewable energies by providing financing or other services to their constituencies.

SOLAR INDUSTRY DEVELOPMENT

Western SUN programs designed to provide support to solar trade associations are in the process of being designed, based on suggestions being obtained currently from an advisory group from the Western Regional Solar Energy Industry Association.

Tie into Western SUN's media campaign.

Assist in developing services packages for trade associations.

Place CALSEAL (or consumer protection/warranty insurance programs) in at least three other states. Support ISCC and SRCC.

Facilitate industry coordinated installer training programs.

BUILDER TRAINING

Homebuilders Workshops:	Provide training workshops to local Home Builders Associations both to provide them with information local codes, financial and market information, design rules of thumb, solar domestic hot water heating basics. The workshops will involve local experts and will be conducted by the Western SUN representative in each state. It will teach each Homebuilder Association how to conduct subsequent workshops and will provide generic training work books with state-specific information on codes, tax incentives, financial climate, market information, etc.

Major Builders:	Target major builders and plans services to offer redesign assistance by reviewing their existing plans and redesigning for passive solar modifications. The emphasis will be on marketability and maintaining the integrity of their original designs.
Solar Home Builders Program:	Will provide intensive and localized assistance to the major targeted audience of residential builders by enabling builders and designers to team up, compete for participation in the program which requires a building commitment. Western SUN provides design consultant fees, technical assistance, seminars and publicity, and the monitoring equipment that is placed in the homes.

COMMUNICATIONS

Media Strategy:	Developing a comprehensive media plan to increase solar awareness on a regional level and at the local levels. Theme: HAVE SOME ENERGY ON THE HOUSE. SOLAR. Will begin campaign with series of public service announcements to be followed by a major media event featuring a popular entertainer in 1982. Other components include editorials, articles for trade and news magazines, talk show material, etc.

Statement of National Laser Users Facility, University of Rochester

The National Laser Users Facility (NLUF), located at the University of Rochester's Laboratory for Laser Energetics (LLE), has demonstrated significant advances during the last year in the field of Inertial Confinement Fusion (ICF). Since the early 1970's, Rochester has been the only center of ICF research using symmetrically illuminated, directly driven targets as a low cost alternative approach to demonstrating the feasibility of laser fusion. This approach has special applications for the military program and is beneficial for civilian applications also.

The key ingredients of an inertial fusion program are driver technology development, diagnostic technology, theoretical target design and modeling capability, and target fabrication. Advances have been made at LLE in all of these areas. Brief highlights follow:

(1) Invention and demonstration of a laser frequency conversion technique for changing an infrared (1.05 μm) laser to ultraviolet (0.35 μm).

(2) Experimental demonstration of greatly increased absorption and hydrodynamic efficiencies proving that ultraviolet converted systems are 20 times as efficient as infrared in obtaining high thermonuclear yields.

(3) Design of targets, optimized for ultraviolet irradiation, which will achieve the thermonuclear ignition at 15 kilojoules (ultraviolet).

(4) Completion of the 24 beam OMEGA laser system on schedule, within budget, exceeding all guaranteed power and energy performance goals, and surpassing the design peak power objective of 12 trillion watts.

(5) Development of new and unique diagnostic tools for direct measurement of fusion reaction products, including direct measurement of density, pressure, temperature, density-radius (ρR) product, mass ablation rates, hydrodynamic efficiency, and drive uniformity.

(6) Demonstration of the advantages of the symmetrically illuminated, directly driven approach by showing significantly higher thermonuclear gains than any comparable approach. Uniform compressions have been

obtained both in high temperature - high density and low temperature - high density regimes.

Unanticipated, 'spin-offs' affecting basic research programs have also occurred. Frequency conversion experiments already performed at the NLUF have demonstrated that there is now a capability of performing equation-of-state studies at pressures five times greater than those at infrared wavelengths. Ultraviolet irradiated targets have been shown to be one of the brightest x-ray sources for use in structural and biophysics studies, extended x-ray absorption fine structure (EXAFS), and photoemission spectroscopy. Advances in the capability to generate and synchronize laser pulses on a 10^{-13} second timescale have been demonstrated.

Seven user experiments will be performed at the NLUF this year. Fifteen new proposals have been received for review by the Steering Committee this April.

Three patents with applications in the field of inertial fusion were licensed in FY 1981 as a direct result of the LLE Technology Transfer Program.

These results now pave the way for achievement of the next major ICF milestone in the national program, thermonuclear ignition scaling experiments. Furthermore, the milestone can be achieved with minimal additional investment and by using existing lasers, once frequency converted and upgraded.

Today at Rochester, we are at a threshold with a unique opportunity to achieve a major milestone in the inertial confinement fusion programs - thermonuclear scaling experiments. The first step toward accomplishing that goal, the conversion of infrared lasers to ultraviolet, can be undertaken with low technological risk and investment. The immediate impact will be greatly increased thermonuclear efficiencies and the capability to provide a low cost alternative to the massive new lasers now under construction and intended to achieve ignition conditions. All this is made possible because of the unusual developments which occurred during the summer of 1980 at LLE.

The remaining sections of this statement address background on the NLUF at the University of Rochester's Laboratory for Laser Energetics (LLE), a technical discussion of the ultraviolet conversion program, and a plan for a low cost conversion of the OMEGA laser system to the ultraviolet by mid-FY 1984.

The Laboratory for Laser Energetics (LLE)

The Laboratory for Laser Energetics, located at the University of Rochester, is the focus for a unique program directed toward the feasibility demonstration of laser fusion. LLE performs a critical role in supporting the National Inertial Confinement Fusion (ICF) Program. That program has the national security as its primary goal. Under a five year contract with the Department of Energy, LLE explores the use of symmetrically illuminated, directly driven targets to demonstrate thermonuclear ignition. The program has two major objectives:

(1) To conduct a research program whose scope of work is developed annually in close support of the program at Lawrence Livermore National Laboratory, under the Lead Laboratory Program of the Department of Energy (DOE)

and

(2) To operate the National Laser Users Facility (NLUF) for the performance of experiments using the high power laser systems at Rochester.

In addition, with this federal support, LLE has attracted $46 million of private support for a program directed toward a second important national need, the exploration of inertial fusion as an alternative energy source.

A tertiary benefit of this federal support for the program at Rochester has been the training of highly skilled scientists and engineers who are in great demand in the new field of ICF. The University has graduated over 30 Ph.D. students who completed their doctoral thesis work at LLE. Those students have gone on to universities, national laboratories, and industry. Many have already made significant contributions to the inertial fusion field. Because of the University of Rochester's involvement in this program, it is the only higher educational institution with the ability to educate and train the scientific leaders required for the national ICF efforts.

The FY 1982 Program

The federally funded program at LLE in FY 1982 has two components: (a) supporting research for the military under the Department of Energy's Lead Laboratory Program and (b) management and operations of the National Laser Users Facility (NLUF).

The DOE Supporting Research has the implementation of implosion experiments on a 6 to 12 beam symmetrical irradiation facility as its goal. Single and two beam, short wavelength studies will continue the work begun during FY 1981 on interaction physics at 0.35 μm. The program includes experiments and theoretical support as well as studies on optical materials for use in ultraviolet systems. Experiments are to be designed and conducted to assess the uniformity of energy deposition for directly illuminated targets. These studies will gather necessary data to answer scientific questions critical to achieving thermonuclear ignition, the next major step in the national program.

The NLUF program comprises planning, user proposal review, and funds to support the user's research program costs. Capital equipment items for the NLUF in FY 1982 include the 24 beam OMEGA target chamber; diagnostic equipment, such as electronic x-ray cameras and oscilloscopes for user experiments; and spare parts for the laser system.

A total of $7,400,000 of operating funds and $1,600,000 of capital equipment funds are requested as follows:

$5,330,000	DOE Supporting Research
2,670,000	NLUF Operations and Equipment
1,000,000	Users Research
$9,000,000	Total (not including conversion)

This program, however, does not yet address the unusual opportunity available to exploit the ultraviolet conversion innovation which occurred at LLE in the past year.

In the detailed technical and program description which follows, the rationale for undertaking a conversion project on OMEGA while concurrently performing the existing program described above is set forth. The total program provides an optimum path toward the next major milestone in fusion - significant thermonuclear ignition scaling experiments. The preliminary budget for conversion of OMEGA was submitted to the Department of Energy for inclusion in its Program Planning Budget Statement. The plan shown here, however, has a more aggressive schedule because experimental results have since verified the theoretical predictions. Because of the urgency and importance of ignition to the national program, it is prudent to proceed with this promising, low cost alternative approach.

1973

Laboratory for Laser Energetics Ultraviolet Conversion Program

Although the advances in Nd:glass laser performance have been significant, the energy and power levels attained are still below those required to achieve ignition conditions. The use of infrared wavelengths has been recognized as a limiting factor due to inefficient coupling and the generation of fast electrons which severely degrade target performance.

LLE actively pursued short wavelength (0.35 μm) studies while designing and constructing the longer wavelength (1.05 μm) OMEGA system. The history, in brief, of those studies is as follows:

1973	Theoretical calculations show enhanced coupling for short wavelength lasers.
1973-74	Frequency up-conversion using alkali vapors examined.
1975	High efficiency (50%) second harmonic generation using crystals demonstrated.
1976	First interaction experiments at 0.53 μm.
1977	Theoretical calculations show a 5X improvement in compression efficiency with ultraviolet (0.35 μm) compared to infrared.
1979	Frequency tripling program initiated.
1980	Intrinsic frequency conversion to third harmonic in excess of 80%.
	Target designs using 0.35 μm irradiation show ignition for target energy absorption in the 15 kilojoules (0.35 μm) range.
1980-81	Preliminary interaction experiments at 0.35 μm verify theoretical predictions of absorption and energy transport.

An optimum laser driver is considered to be one operating in the ultraviolet portion of the spectrum. In the last year, work at the University of Rochester has led to highly efficient conversion (greater than 80% in energy) of the infrared output at 1.05 μm of existing Nd:glass lasers to the ultraviolet at 0.35 μm. The application of this technology to target interaction experiments at Rochester, has resulted in a demonstration of the expected benefits of the short wavelength driver. Absorption and overall hydrodynamic efficiency have been shown to be significantly higher at 0.35 μm than at 1.05 μm. In addition, fast electron production, which causes fuel preheat and results in reduced compression in infrared target experiments, has been shown to be significantly lower with 0.35 μm irradiation.

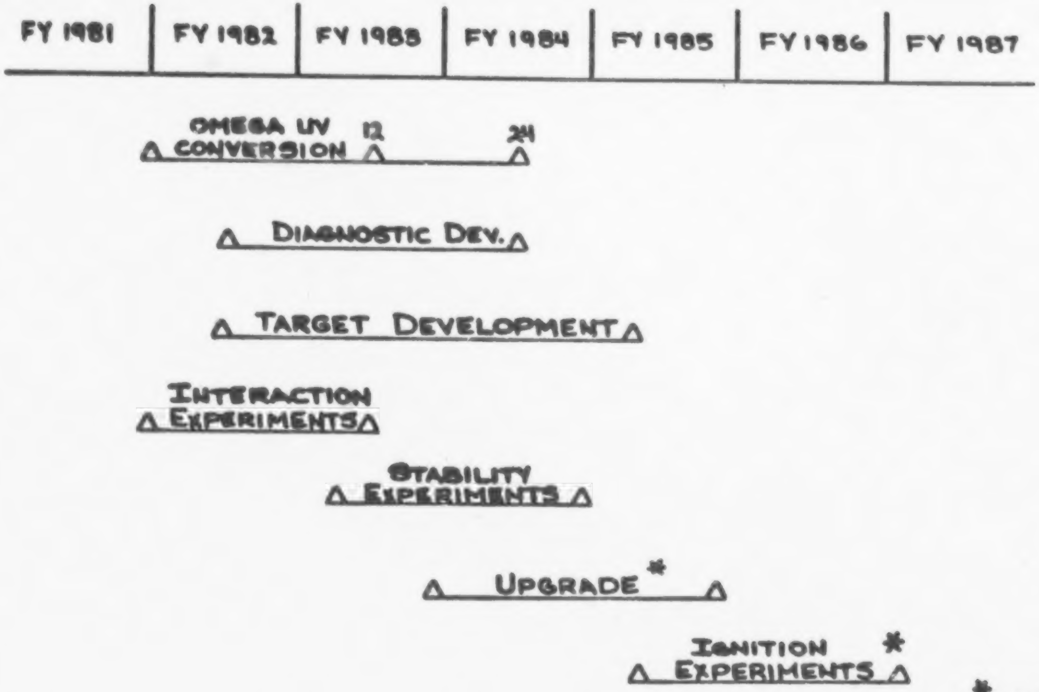
One of the advantages of using short wavelength radiation as a fusion driver is the increased absorption of laser light expected. The laser radiation penetrates to higher densities in the plasma where absorption mechanisms are more effective. Experiments completed early in 1981 at LLE at 0.35 μm in the intensity range suitable for laser driven fusion ($10^{15}>I>10^{13}$ W/cm^2) verified theoretical predictions of absorption of 60% to 95% over this intensity range. The experimental verification of these high absorption percentages, and the identification of the principal absorption mechanisms is an important milestone in the quest to achieve inertial fusion.

High absorption by itself, however, is not sufficient to assure the success of laser driven fusion. Thermal conduction and hydrodynamic efficiency scaling with laser wavelength play an important role in the success of the process. In February 1981, initial direct measurements of ablation pressures and ablation rates by x-ray spectroscopy at LLE demonstrated the high hydrodynamic efficiency resulting from the use of 0.35 μm light. Ablation pressures exceeding 40 Mbar at 10^{15}W/cm^2 were measured in these experiments. Simultaneously, measurements showed the absence of plasma instabilities which can reduce the absorption or generate energetic electrons.

The role of ICF in the military program is weapons related. The biggest impediment to its success, however, has been the inability to achieve ignition of the thermonuclear fuel (fusion energy equal to the compression energy in DT). This is the single most important milestone required to demonstrate the scientific feasibility of inertial confinement fusion. Recent theoretical results, which include realistic models of the achievable uniformity of implosion drive and which rely only on modest laser temporal pulse shaping requirements, indicate ignition and significant thermonuclear energy release scaling are possible with approximately 15 kilojoules of 0.35 μm light delivered to a target using a 1-3 nanosecond pulse. Prior to the ultraviolet light breakthrough at Rochester this past summer, we believed that up to 1 megajoule of infrared light would be required. Sophisticated theoretical calculations now indicate that the present target designs for short wavelengths should result in a comfortable margin of safety to achieve the ignition milestone. Intermediate milestones at the 2-10 kilojoule level will demonstrate experimentally the hydrodynamic stability and symmetry requirements to verify the theoretical predictions and should be incorporated as part of the demonstration and proof-of-principle critical path for ICF. These intermediate milestones are of considerable importance in support of the national program in both its national security and civilian missions.

Based on these considerations we estimate that a significant laser fusion milestone, namely ignition demonstration, could be achieved with an ultraviolet laser at the 15 kilojoule (0.35 µm) energy level. The target fabrication requirements of such a demonstration involve cryogenic fuel in a levitated multi-layer shell. While this is not current state-of-the-art technology, significant progress has been made, and a target fabrication development capability should be at hand by the mid-80's.

A possible schedule for this program is shown in Figure I. The first step is frequency conversion and associated initial experimentation. An effort to upgrade the OMEGA system energy output would then be undertaken, beginning in FY 1984, if scientific results warrant it. The estimated cost for the energy upgrade construction program is $22 million (FY 1982 dollars) over a two to three year period.



*NOT INCLUDED IN THIS PROGRAM DESCRIPTION.

LABORATORY FOR LASER ENERGETICS
ULTRAVIOLET CONVERSION PROGRAM

FIGURE I

Summary: LLE Ultraviolet Conversion Program

Conversion of the full complement of 24 beams can be accomplished by October 1983, if funds are available in FY 1982. The converted system will produce 3 kilojoules of energy at a wavelength of 0.35 μm in a 1.0 nanosecond pulse. The project has little technological risk and builds on the laser and optics technology which has been developed at LLE over the last 10 years. The high-efficiency (80%) frequency conversion technique has already been used on other lasers at LLE in order to demonstrate the higher-efficiency coupling of the frequency converted laser energy into the fusion target.

The conversion technique requires the insertion of crystal converters into the infrared beam path. Most of the existing equipment is left undisturbed. Important ongoing scientifc work at infrared wavelengths can be pursued while conversion takes place.

The entire conversion program, construction and initial experimentation, spans three fiscal years, 1982-84. An initial conversion of 12 beams would also permit important scientific experimentation. This checkpoint could be used if sufficient funding for the entire conversion is not available.

Additional operating funds, above and beyond the existing five-year DOE National Laser Users Facility contract, are required to support the construction, diagnostic development, target fabrication, theoretical design, and experimental activities necessary to perform ultraviolet target implosions. Table I shows the total Conversion Program funds requested through FY 1984. These estimates assume the entire program is performed at LLE and supported by DOE. The cost to the government may be reduced if support for the work is obtained from other laboratories in the inertial fusion program.

The full 24 beam OMEGA system, converted to the ultraviolet at 0.35 μm will deliver 3 kilojoules of focusable energy to a target. Such a system will be a significant step in demonstrating the scientific feasibility of laser fusion. Potentially, frequency conversion of OMEGA could augment the National ICF Program by providing the data base which will help to insure the ultimate success of the NOVA facility. In addition, such a system could allow access to the high density and high energy conditions relevant to the national security program at the earliest possible date.

LLE, the largest facility using the direct drive approach to fusion, will continue to be an alternative to the classified approach pursued at the National Laboratories and will continue to provide the capability to support the scientific and technical needs of the national fusion program in this country.

Fiscal Year	Existing Contract	Conversion Equipment	Experimental Support	Total Obligations*
1982	$8,800,000	$2,300,000	---	$11,100,000
1983	9,600,000	4,200,000	3,200,000	17,000,000
1984	10,500,000	500,000	4,400,000	15,400,000
Total	$28,900,000	$7,000,000	$7,600,000	$43,500,000

*not including upgrade and ignition experimental programs, starting in FY 1984.

ULTRAVIOLET CONVERSION PROGRAM ESTIMATES
(FY 1982 Dollars)

Table I

STATEMENT OF TERREL H. BELL, SECRETARY OF EDUCATION

I have come here today to discuss the Administration's fiscal year 1982 budget request for the Department of Education. The total request from this subcommittee is approximately $12.3 billion, and it reflects two major themes: it responds to the President's program to achieve a full and vigorous recovery of our Nation's economy; and it focuses scarce resources on our neediest populations.

Budget Growth

Although much of the press attention has focused on budget reductions in education, I would like to start by noting that our $12.3 billion budget is about 80 percent larger than the $6.9 billion requested for fiscal year 1977 when I last appeared before this subcommittee in March of 1976 as Commissioner of Education. That is a growth rate of 16 percent per year which is excessive in light of our current economic situation. When we finance schools and college student aid programs on borrowed money through deficit spending, we add to our future problems. Just the interest on a $60 billion deficit for next year could amount to over two-thirds of the total cost of our programs in this Department.

It is just such excessive growth in Federal spending that the President has identified as one of the targets for reduction in his Economic Recovery Plan. We simply must curb the growth in government spending if we are to stop inflation from rising at the same kind of double-digit rates that have occurred since 1976.

Impact of Inflation

You may be familiar with these figures already, but I believe it is worth repeating a general analysis of how inflation hurts education more than reduced Federal spending. Because the Federal government has a constitutionally and historically limited role in education, we only provide approximately eight percent of all the $107 billion in total national expenditures for elementary and secondary education. Yet inflation erodes the purchasing power of all funds, including the 92 percent provided by States, localities, and others. Our economic stagnation also causes unemployment and reduced productivity. This, as you know, erodes the State and local tax base. State sales and income taxes and local property taxes are used to finance schools and colleges. As we improve our economic conditions we will improve the capacity to finance education. A reduction of even two percent in the rate of inflation--say from 12.4 to 10.4 percent--will save almost $2 billion of the $107 billion national investment in elementary and secondary education each year.

I realize that reduced Federal spending will not be painless. However, I think the short-term sacrifice is necessary if we are to solve the long-term problem of inflation.

Major Proposals in Budget

There are three major proposals involved in the 1982 budget that I would like to discuss today: 1) consolidation of over 40 categorical elementary and secondary programs; 2) reform of two of the major student assistance entitlement programs; and 3) ending the payment of Impact Aid to districts which are not adversely affected by Federal activities. Each of these three proposals involves legislative changes as well as actions on your part to limit appropriations. I appreciate your willingness to hold appropriations hearings on these requests prior to passage of the legislative changes.

While the primary purposes of the reforms in Student Aid and Impact Aid are to control budget growth, I would still support these changes--as I am supporting the consolidation of the many disparate elementary and secondary programs--even if the budget cuts were not necessary. This Administration is firmly committed to a reduced, but appropriate, Federal role in education, and that principle characterizes our position on many issues.

Elementary Consolidation and Secondary Consolidation

The budget requests approximately $4.4 billion for the proposed grants under the Elementary and Secondary Education Consolidation At. Compared to the combined budgets for the 44 programs in 1981, the 1982 budget is an increase of $297 million, or nearly seven percent. Because the grants under the consolidation are advance-funded, the awards be used in school year 1982-83.

I have been involved with past Administration proposals to consolidate programs. There were, and are, many good reasons for such consolidation. For the past 15 years the Federal government has tried, with varying degrees of success, to administer patchwork categorical programs tailored to fit an ever-growing list of unmet needs. Each of these creates its own regulations and other paperwork and administrative burdens that tend to detract from the time and the resources used for teaching and improving schools. This Administration believes that the kind of help students need can be better determined at the State and local levels than in Washington. Too much of the control over education has shifted to Washington along with the growth in the number of Federal programs and dollars.

The Consolidation Act of 1981 is a major step in the right direction to restore State and local control in education. In the 44 separate categorical programs embraced in this one piece of legislation, we estimate the laws for them would fill approximately 200 printed pages and the regulations about 400 pages more. Beyond the laws and regulations, you could find uncounted thousands of pages of policy clarifications, guidelines and letters attempting to explain what all those other documents mean. The proposed consolidation sharply reduces this regulatory and administrative burden.

We have not abandoned accountability, nor can we. The States must identify the student beneficiaries of the consolidated programs and use the money for the same activities provided in current laws. Provisions are made for the States to publish plans for use of funds to permit local comment and for the States to audit expenditures to ensure against misuse of funds. The Department will also have authority to prevent misuse of funds. The States, on the other hand, will have far more flexibility in allocating Federal money in ways that take into account their diverse educational problems and the funds that States are already spending on education.

There are as many different State and local systems as there are States and local districts. Each has its own laws, programs, procedures, and even categorical programs. The consolidation will give them more flexibility to fit Federal programs to their needs.

There are two basic kinds of grants in the proposal. The first, called Financial Assistance to Meet Special Needs, will provide $3.8 billion to States in fiscal year 1982 for services for: (1) disadvantaged and handicapped students and those in schools undergoing desegregation, and (2) programs for services provided by States for handicapped and neglected and delinquent students in institutions, migrant students, and adult education. Of the $3.8 billion, $3.3 million is for the local grants, almost 565 million for the State grants, and $6.5 million is for evaluation of these programs.

The second kind of grants will provide $565 million in support for Financial Assistance for Improvement of School Resources and Performance. These grants would be used to encourage academic excellence, improve achievement, and strengthen State oversignt and management. Of course, these were the purposes of the existing individual programs, but the consolidation will enable States and localities to decide the most effective institutional and management practices to achieve these ends.

Student Aid Reform

The budget includes reforms of the two largest student aid programs, which are the Guaranteed Student Loans and Pell Grants. In student aid, we have three goals: to continue help for truly needy students, to re-emphasize the role of the family and the student in contributing to college expenses, and to regain control of Federal spending.

In Guaranteed Student Loans, where our request is for approximately $1.8 billion in 1982, we are making a series of statutory proposals designed to control the explosive growth in Federal costs and to more equitably target Federal subsidies.

The skyrocketing costs of this program are primarily related not to the borrower default rate (which has been largely held in check) but to dramatically increasing loan volume as well as high Treasury bill rates (which drive the "special allowance" payments to lenders). In response to the Middle Income Student Assistance Act of 1978 (which removed a $25,000 adjusted family income limitation on the in-school interest subsidy), 1979 amendments which removed a five percent cap on the special allowance rate, and other recent program changes, guaranteed loan volume increased from $1.5 billion in fiscal year 1977 to $4.8 billion in fiscal year 1980. We expect that loan volume will exceed $7 billion in fiscal year 1981 unless program changes are soon enacted. (Guaranteed Student Loan volume has increased at a much faster rate than college costs over this period.) Over the last four fiscal years (1977-1980), subsidy costs not related to default claims accounted for 77 percent of GSL program expenditures.

The very high level of Federal subsidization during the in-school period (currently 18.5 percent interest paid by the taxpayer, zero paid by the borrower), is a major incentive for expansion of loan volume as well as a major component of program costs. A student graduating today who took out a $2,500 GSL as a freshman four years ago has already had about $1,350 in Federal interest subsidization paid on his/her behalf. Currently, a dependent undergraduate may borrow up to $12,500 at zero percent interest during his/her undergraduate career and his/her parents may borrow an additional $15,000 at a still highly subsidized nine percent interest rate — all with no family income or financial need limitation.

While we are continuing to push collection efforts to reduce net default costs, we clearly must address the growing Federal interest subsidies if we are to control total GSL costs. Unless the program is soon amended, we can expect GSL program costs to exceed $1.9 billion in fiscal year 1981 and $2.5 billion in fiscal year 1982, and these costs will increasingly threaten the funding of more controllable but targeted student assistance for the disadvantaged. We believe our proposal can curtail the GSL subsidy costs while continuing the basic purpose of the program, which is to ensure access to loans to students who would not be able to attend college without borrowing.

Our Guaranteed Student Loan proposal has five parts:

First, the amount of the student loan will be limited to whatever is needed after deducting other aid and the expected family contribution from the student's educational costs. By restricting the loan to "remaining need," we will still focus on the needy, and many middle income students, but we will discourage excess borrowing.

Secondly, the in-school subsidy which the Federal government currently gives to lenders of student loans on behalf of the students will be eliminated. Lenders will now have the option of either (1) letting the student borrower pay back the accrued in-school interest along with the principal, after finishing school and grace periods, or (2) requiring borrower payment of the interest as it accrues during school. Student in-school interest payments would increase the "costs of attendance" but these increased costs could be met with other need-based Federal aid, such as College Work-Study. Under this proposal, the advantages of a low-cost loan are still available to the student borrower, and the lender still gets a guaranteed repayment of the loan and a special allowance paid by the Federal government to bring the yield to current market level.

The third change eliminates the special allowance on the newly authorized parent loans. Parents can still borrow and, if allowed by the lenders, take up to 20 years, rather than ten, to repay, but they will have to pey whatever interest rate the lender charges rather than the current nine percent. The Federal government will still guarantee the loan.

Fourth, the new administrative allowances for institutions will be eliminated. The existing administrative allowances to State guarantee agancies will be continued.

And fifth, the Education Department would be given authority to attempt to collect GSL defaults which guarantee agencies are unable to collect.

In Pell (formerly Basic Educational Opportunity) Grants, we are requesting approximately $2.5 billion, which is the amount required even after savings from our legislative proposals. In 1982, those changes will: (1) increase the assessment rate on discretionary income after family living expenses from 14 percent to 20 percent as part of the needs analysis formula; (2) require the student to provide $750 in "self-help" through part-time or summer employment or other sources; (3) change the determination of the cost of attendance; and (4) eliminate the newly authorized administrative allowances for institutions. Grants will still be available to needy students. In fact, a student from a family of four with an income of $11,000 or less would not be affected by the changes.

The maximum award will be increased to $1,800 from the $1,750 included in the 1981 budget. The fiscal year 1982 request for Pell Grants is $888 million less than the $3.4 billion which would be required under current law.

We have discussed these student aid reforms with the authorizing committee on several occasions.

I should also point out that we are requesting a $100 million increase in the Federal capital contribution for National Direct Student Loans--from $186 to $286 million. Including College Work-Study, Supplemental Opportunity Grants, and the other Federal programs, we are requesting $6 billion in student aid--or only $900 million less than the total education budget in 1977.

Impact Aid

The major decrease from 1981 is for School Assistance in Federally Affected Areas, where we are trying to limit Federal aid to those districts which are most adversely affected. The 1982 request is $401 million, which is down from the 1981 level of $723 million.

Many of the almost 3,900 districts which receive Impact Aid actually benefit from the presence of Federal installations and employees. They raise local employment, generate sales and sales tax revenue, and add to the stability of the local economy.

Here, as in other programs, we will continue funding for those in greatest need. In 1982, we will not fund any "B" children and will limit payments for "A" children to those districts where "A" children comprise 20 percent or more of the enrollment. As you know, "A" children are those whose parents live and work on Federal property; "B" children are those whose parents eithher live or work on Federal property, but not both. Approximately 3,500 school districts will receive less Federal money in 1982 because of the reduction. Most of these districts currently receive relatively small payments--less than five percent of their budget--and the bulk of the 3,500 are eliminated because of the dropping of the "B" payments which we do not believe are justified under the best of circumstances. For a small number of districts, our cuts may cause some hardship, but we believe that a sacrifice of Impact Aid funding is better than a reduction in other programs that are more likely to result in services for needy students.

We are also proposing an increase in the construction account, from $50 million to $64 million, to address life safety hazards at Federal schools on Indian reservations and other Federal installations.

Other 1982 Increases

Several other major increases and decreases over the revised 1981 levels should be noted. The Federal bilingual education programs are increased from $135 million to $144 million in 1982, and vocational education is increased from $584 million to $623 million in 1982. These 1982 increases are consistent with the seven percent increase in the consolidated grant programs.

The additional bilingual education funds will supplement our current efforts to help local school districts build the capacity to offer effective instruction to limited-English-proficient youngsters. The figures for vocational education are placeholders pending the development of an Administration position on the reauthorization of vocational education.

Federal capital contributions for the National Direct Student Loan (NDSL) program are increased from $186 million in 1981 to $286 million in 1982. The NDSL program, along with Supplemental Educational Opportunity Grants and College Work-Study, supplement the Pell Grant and Guaranteed Loan programs by providing need-based assistance to students through their campus financial aid offices. The NDSL interest rate is four percent and students do not have to repay the loans to the institutions, who have their own revolving funds, until they have finished school and some grace periods.

An increase of $9.6 million, from $120 million in 1981 to $129.6 million in 1982, is provided for the Title III Developing Institutions program. The increase would be used for the recently authorized challenge grants which stimulate non-Federal support and concomitant concern for efficient management by requiring the colleges, whose enrollments are predominantly black and minority students, to provide a matching contribution from their own funds.

National Institute of Education

Finally, a decrease of $13 million--from $74 million to $61 million--for the National Institute of Education, the educational research and development component of the Department, reflects the Administration's general policy to reduce research in the social sciences given present budgetary constraints. There is a clear Federal role in research, but we will try to stretch the limited funds we have further.

Salaries and Expenses

For the record, I want to state my support for the $241 million request for salaries and expenses under the Departmental Management account. These funds for program administration represent less than two percent of the total Education budget. The request reflects a decrease of eight perent in employment ceiling from the level approved in the Carter budget.

My colleagues and I are prepared to respond to your questions.

STATEMENT OF WILLIAM C. WALBRIDGE, GENERAL MANAGER, SACRAMENTO MUNICIPAL UTILITY DISTRICT

My name is William C. Walbridge. I am the General Manager of the Sacramento Municipal Utility District (SMUD), a publicly owned electric utility which provides service to consumers in a 750 square mile area in California's Central Valley which includes our State's capitol city of Sacramento.

For the past 20 months SMUD has been working with Acurex Solar Corporation on a photovoltaic project. My purpose today is to call your attention to that project.

Before proceeding with the main thrust of my testimony, I would like to take a few minutes to acquaint you with SMUD so that you may better understand our motivation in proposing a 100-megawatt photovoltaic powerplant and to apprise you of the capabilities we can bring to that project to assure its successful completion. Following that, I will provide an overview of the project and our thoughts on the appropriate role for the Federal Government in that effort. Finally, I would like to comment on the beneficial impact this project can have on the development of the photovoltaic industry in our Country and the acceptance of photovoltaic generation by the electric utility industry.

SMUD operates under authority of the California Municipal Utility District Act. That Act conveys to us those powers necessary to conduct an electric utility operation, including the powers to purchase and sell electricity, to construct new facilities, to sell debt securities, to establish rates for electric service and to enter into such contractual relationships as may become necessary.

We are governed by a five-person Board of Directors elected by the voters within our 750-square mile service area. SMUD provides electric service to approximately 750,000 people within that area and currently sells surplus power to the Pacific Gas and Electric Company. We are well established in the financial marketplace, having issued more than $600 million, AA-rated bonds since 1959. In 1980, our assets were slightly in excess of $1 billion and our revenues were $188 million. Our peak load was 1,574 megawatts this past summer and our 1980 sales were 8.9 billion kilowatt-hours.

SMUD has been an innovator and a leader in the electric utility industry since it commenced operation in 1947. In the 1960s, we developed a stairstep of hydroelectric power in the Sierra Nevada. This project consists of six powerhouses with a combined output of 650 megawatts. In 1974, we brought on line a 900-megawatt nuclear generating station, the largest such plant west of the Mississippi River.

SMUD was an industry leader in providing underground residential distribution system as a standard of service. In the early 1960s, we pioneered in equipment and design development that made such systems economically feasible. Continued attention to the aesthetics of utility design has brought SMUD national recognition.

Since the early 1970s, we have been developing innovative programs to bring about more efficient use of electrical energy. We currently have more than 15 active programs to educate and assist customers to more efficiently utilize energy. Among these are air conditioning load control, weatherization and attic insulation programs and passive solar design systems.

Our record of innovation and leadership extends to our efforts to develop new sources of generation. This spring we will be starting construction on a 72-megawatt geothermal plant utilizing the steam energy found in the earth. Additionally, we are a participant with four other utilities in developing the power generation benefits of hot water geothermal by using modular constructed, binary cycle power plants. We are also pursuing the opportunities offered by small hydroelectric generation, which was often neglected in the past. We have under construction a 400-kilowatt mini-generator on a fishwater release valve at a SMUD-owned dam to recover energy which was formerly dissipated. Additional enhancements to our hydroelectric project under design or licensing will add 10 megawatts and 50 million kilowatt-hours per year. In cooperation with others, we are installing, or propose to install, small generators on existing dams.

These efforts, as well as others, have enabled us to develop a large, competent, dedicated staff well qualified to successfully manage innovative projects such as the proposed photovoltaic power plant.

Why does SMUD wish to construct a 100-megawatt photovoltaic power plant? Because we think it makes good sense. It fits well into our power supply planning, providing energy when our system demand is greatest.

Sacramento is a growing area. Since 1975, we have added more than 60,000 new customers. We project future load growth of more than 3 percent per year. To provide reliable electric service, we must add by 1992 about 700 megawatts of "baseload" generation to serve year-round energy needs and "peaking" capacity to meet peak hour and seasonal demands. Geothermal and coal are in our plans for baseload requirements. Hydro power and solar are our options for peaking supply.

As I stated earlier, we have been aggressively pursuing the development of small hydro power, both at new sites and by backfitting generating facilities into existing dams. From this experience, we have a good fix on the cost of the hydro alternative and it has formed the basis of our commitment to invest $2,700 per kilowatt (in 1980 dollars) into the development of a large photovoltaic power plant.

SMUD is uniquely suited to develop this first large-scale photovoltaic project for several reasons:

1. The power availability curve from a photovoltaic plant coincides well with SMUD's system demand, peaking during the long summer daylight hours.
2. The substantial land requirements (1,100 acres) is available at SMUD-owned property adjacent to its Rancho Seco nuclear plant.

3. Support facilities are already available at the site. This includes transportation, water, security and a transmission substation interconnecting five 230,000-volt transmission lines of SMUD and the Pacific Gas and Electric Company. Nearby are transmission lines of the Western Area Power Administration with whom SMUD is also interconnected.
4. Technically trained manpower is available at the site.
5. SMUD has the financial and management capabilities required for such a major undertaking.

Subsequent to discussions with the Department of Energy (DOE) starting in January 1980, we submitted to DOE a proposal for the project being reviewed today. That proposal, dated December 4, 1980, is being submitted for the record.

The 100-megawatt photovoltaic plant is based on a system designed by the Acurex Solar Corporation. The original concept was developed for Phase I of the DOE's Solar Photovoltaic Flat Panel Application Experiment program in which SMUD was also a participant. The design was further refined and optimized in an Acurex-funded design effort to develop the cost basis for the proposed 100-megawatt project.

This design utilizes flat plate photovoltaic modules arranged in arrays producing approximately 17 kilowatts each. These arrays track the sun by use of a single axis clock drive. While adding 1-1/2 to 2 percent to the cost of the project, it will mean an increase in annual energy production of between 14 and 20 percent. This tracking design also provides for a closer match between power production and system demand. Because of the repetitive nature of the panel and array concept incorporated in the design, there is ample opportunity to develop mass production and field construction and installation techniques which will drive down capital costs.

The project comprises 12 sequential stages over a 12-year period. These stages will produce power increments starting at 1 megawatt and increasing to 35 megawatts in the final stage. The initial three stages will address the financial, technical and operational conditions, with the first 1 megawatt increment becoming operational approximately 18 months after project startup. By staging the project in this manner, SMUD will be able to incorporate increasingly cost-effective, mass-produced photovoltaic arrays.

The 12-stage approach offers the best in flexibility. The design will not be locked up as would be the case for a single-stage project. We plan to incorporate improvements or technological breakthroughs in material or design throughout the project life as they become commercially available.

This staged approach also minimizes the risk and maximizes the management control of the project. At the completion of each installation increment, the project will be reviewed to measure accomplishments of technical and cost objectives. At the review points, decisions can be made to alter the installation schedule to achieve the project cost milestones. The commitment to proceed with each subsequent stage will not be made until specific cost milestones can be met or appropriately revised based on experience with previous stages. As these decisions will be made based on real data, not projections, this approach will provide minimum risk of cost overruns, while still providing generating capacity in a timely manner to meet SMUD requirements.

As I stated previously, SMUD will commit to an average capital cost of $2,700 per kilowatt. The first 1 megawatt increment is forecast to cost approximately $10,000/kw, but the final 35-megawatt stage will cost $2,160/kw, resulting in a project average cost of $2,700/kw. This projection of price reduction is based on a conservative interpretation of DOE's projections for both module and balance-of-system costs during the decade of the 1980s. It is important to note that our baseline cost projection for this plant provides a substantial margin between SMUD's commitment and the DOE goals.

SMUD is proposing that the entire capital cost of this project be borne by the utility district. No Federal funds are required for its construction. SMUD has proposed two options for the DOE participation in our project. The first option is a contingent liability cooperative agreement under which money would transfer only if, by mutual agreement, the project were terminated prior to completion, or the cost exceeds the $2,700/kw average cost projection. With the second option, the Department of Energy would underwrite, on a reimbursable basis, the early year costs of the project to the extent that these costs exceed the $2,700/kw competitively determined value to the utility. At such time as we are able to construct photovoltaic systems for less than $2,700/kw, SMUD would repay the DOE for the monies advanced in the early years of the project. In either case, exposure for this project is estimated to peak at $26 million in the eighth year with the yearly incremental exposure being in the range of $1 to $4 million.

Thus, SMUD is not requesting Federal cost sharing of this project, but, rather, we are requesting that the Federal Government act as a catalyst in bringing about this commitment of private funds. Since implementation of the project requires that the initial stages be purchased at prices higher than conventional alternatives, SMUD is requesting that the Federal Government underwrite this exposure, not the cost associated with the initial purchases. The estimated $26 million Federal financing exposure is less than one-tenth of SMUD's total projected investment. With successful completion of the project, no Federal funds will have been expended.

Federal participation can serve as a catalyst to bring large investments of private capital into the development of the photovoltaic industry and to establish the viability of photovoltaic generation as a proven technology for utilities to use in their resource planning.

In the best interest of their customers, electric utilities are reluctant to rely on unproven technologies for generating plants which will be needed to serve customer load. This 100-megawatt project operating on a utility system can prove the technology, the economics and the operability of photovoltaics.

The photovoltaic manufacturing industry has been grappling for years with the question: "Which comes first, supply or demand?" Industry cannot commit to the purchase of uneconomic power supply technologies. On the other hand, the photovoltaic industry cannot invest in research and development and produce capacity unless a market for their product exists. Without these investments, the costs will not reduce to meet the economics required for a broad market. This problem also will be addressed by SMUD's program, which provides for large-scale purchases throughout the transition from today's prices to those which are truly economic to a broad market base.

In summary, I would like to stress the following points:

1. Photovoltaic technology offers great potential for central station generation when it is shown to be economical and reliable.
2. A large photovoltaic project is required to develop the cost cutting benefits of mass production and repetitive construction techniques in the industry.
3. SMUD's proposal for the staged development of 100 megawatts provides the mechanism to bring photovoltaics to economic viability and offers the project flexibility to incorporate improvements in materials and designs.
4. SMUD's proposal is unique in that its size and location on an operating utility system will develop the photovoltaic market and will prove photovoltaics as a viable resource for electric generation.

5. SMUD's proposal is also unique in that we are not asking the Federal Government to fund the project. Rather, we ask the Government to act as a catalyst by underwriting on a reimbursable basis some of the exposure in the early stages of the project.

The Department of Energy is in a position to leverage $26 million in reimbursable Federal expenditures against private sector outlays of $270 million.

Finally, I wish to stress SMUD's demonstrated capability to carry this project to a successful conclusion and our willingness to commit our efforts and our money to the project.

I would appreciate your thorough consideration of this project as you deliberate on the energy programs for our country.

Thank you for this opportunity to appear today.

Statement of Lowell J. Endahl, Manager of Energy R. & D., National Rural Electric Cooperative Association

Mr. Chairman and Members of the Committee: My name is Lowell J. Endahl, Manager of Energy R&D for the National Rural Electric Cooperative Association (NRECA). We appreciate the opportunity to present the NRECA membership views with respect to the U.S. Department of Energy appropriations for FY '82 energy research.

Specifically we urge continued or increased funding of the following DOE programs for FY '82:

- A minimum of $35 million for Electric Energy Systems (EES) research (althougn $48 million is really needed) to maintain a minimum program. We urge total reinstatement of the following projects -- electric field effects, making new energy sources work in utility network, electric energy storage (especially the SBEED and compressed air storage programs), load management and distribution automation, and high efficiency materials.

- Continuation of the electric vehicle demonstration program.

- Continued emphasis on the geothermal and small hydro programs with $2 million for an "ombudsman" type role for DOE in small hydro and $1 million to carry the Raft River Geothermal Project through its transition period.

- A minimum of $30 million for the fuel cell program to maintain the momentum toward rapid commercialization of the technology.

. An amount of $4 million to be earmarked for a feasibility study and initial phase of a demonstration utility scale direct combustion peat power plant.

. Continue the photovoltaics and wind energy program with $5 million for a utility scale photovoltaic demonstration program, and $2 million for a testing standards program to assure safety of wind energy machines being sold to the public.

NRECA is the national service organization which represents nearly 1000 non-profit, consumer-owned rural electric systems which deliver electric power to approximately 25 million people in the rural and sparsely propulated agricultural areas of 46 states. These small coopratively-owned electric utilities are located in about 2600 of the nation's 3100 counties, and they own and operate more than 40% of the distribution line in the nation to serve about 9% of the population.

These rural electric cooperatives at their annual meeting in San Francisco, January 25-29, which was attended by nearly 11,000 people (mostly directors and managers of rural electric systems) adopted a series of resolutions on issues of concern, some of which pertain to energy research. The pertinent resolutions are attached.

Electric Energy Systems Research

We urge that the Electric Energy Systems research be funded at a minimum of $35 million, although it is quite obvious that for a truly effective program at least $48 million is needed. Within this office we urge specifically that the following programs be totally reinstated: electric field effects, making new energy sources work in utility network, electric energy storage (especially the SBEED program), load management and distribution automation, and high efficiency materials. We believe that all the programs within Electric Energy Systems (EES) are cost effective and that our national energy efforts would be enhanced considerably by full funding.

Since rural electric systems own and operate over 40% of the electric distribution line in the nation and serve in the sparsely settled areas of the country, they have a special interest in the work of the Electric Energy Systems and Storage research. We are greatly disappointed that this particular research is one of those targeted for greatest cuts.

A host of new problems are beginning to surface for rural electric systems as small power producers and cogenerators, with all types of power generating equipment (i.e. wind, solar, biomass and hydro) seek to sell their surplus energy to utilities under the PURPA regulations Section 201 and 210. While rural electric systems are willing to purchase this self-generated energy, the problems involved with integration of these usually intermittent sources can be complex and uneconomical. They involve energy storage, technical electrical safety problems, and harmonics effects that can endanger communication and control systems. There is need for extensive research in these areas from a systems point of view, but apparently as much as 50% of this research is targeted to be phased out. We urge reconsideration of this.

We understand that major reductions in the energy storage areas are planned. We are extremely concerned that proper support may not be given for compressed air storage and battery storage programs. Rural electric systems are directly involved in development work of both of these technologies, and both are first of a kind demonstrations in the United States. Soyland Electric in Illinois, which plans to build a compressed air storage system will need assistance to resolve problems (i.e. how to recover waste heat) as the project progresses.

Wolverine and Northern Michigan electric cooperatives have committed substantial resources and effort to the Storage Battery Electric Energy Demonstration (SBEED) plant, and now it appears that the Federal Government will not carry out its part of the bargain. We respectfully urge that all funds for this project be reinstated.

Rural electric systems also strongly support the research work underway on Extra High Voltage (EHV) Transmission and studies relating to electric field effects. Recent experiences in acquiring right of way and constructing EHV lines have revealed serious misconceptions, mystique, and fearfulness on the part of the general public as to the electric field effects on vegetation, animals, and even people living near EHV lines. Failure to resolve the questions with regard to electric field health effects could jeopardize future transmission line construction with disasterous impact on the nation's electrical network. We understand that nearly all of this project is targeted for phase out. We urge that the electric field effects research be totally reinstated.

Electric Vehicle Research

We understand that the program to develop a viable electric vehicle is being seriously curtailed by budget cutbacks. Research and demonstration work aimed at using the electric vehicles as a partial answer to reducing the consumption of non-renewable fuels is well underway. We believe that it would be shortsighted to drastically cut back on this effort at a time when the program shows signs of producing a commercially viable product.

Geothermal and Hydropower Funding

We understand that the small hydro program is in danger of being phased out completely under the new budget. Hydropower is of great interest to rural electric systems, and it has the potential for making a substantial near term contribution to our national energy resources. But the nation needs guidance and assistance. At the very minimum a Federal presence in the small hydroelectric areas is needed -- someone for small developers to turn to for technical assistance and help in the complicated and confusing licensing procedures. A simple "ombudsman" type role for the small hydro program at DOE might meet the needs. We suggest a minimum of $2 million per year for this purpose, so that the authorized demonstration projects, like the one involving Broad River Electric Co-op, at Gaffney, South Carolina, can be carried through to a successful completion.

We are also concerned about the reductions in the geothermal program. Rural electric systems have a special interest in geothermal energy. Raft River Electric Cooperative in Idaho has long been actively involved in the development of the binary cycle geothermal system utilizing the vast moderate temperature (about 300° F) geothermal resources. That project is in danger of being abandoned by DOE before the consortium of utilities that will operate the plant will be ready to take over. We respectfully request that an additional $1 million be earmarked for support for one more year.

Fuel Cell Research

Rural electric systems have expressed, through resolution, their continued interest in the rapid commercialization of the fuel cell for electric power generation. They see significant potential for fuel cell power plants in rural areas, and they are actively participating in the industry-wide Fuel Cell Users Group which is dedicated to the commercial application of the phosphoric acid fuel cell technology. But the risk of proceeding as a strictly private investment has become unacceptably high, due to the economic climate and other factors beyond utility control.

The ultimate value of the fuel cell (conservation of fuel resources, cleaner environment and economic benefits for the consumer) makes it essential and proper that the Federal Government share a significant portion of the financial burden of development and commercialization.

Our initial estimates for a program that would retain the pace and continuity required to develop this technology to commercial readiness were on the order of $50 million. But in view of the widespread interest in cutting federal spending, we have taken a hard second look at how the phosphoric acid fuel cell budget might be reduced without killing the program's momentum and the leadership position that the U.S. presently enjoys in the development of this technology.

Our revised request (The Fuel Cell Users Group) is $30 million. This represents a minimum level of effort, sufficient to retain some semblance--though introducing a three-year delay--of the program plan suggested by the National Fuel Cell Coordinating Group for DOE's energy budget for FY '80.

Peat for Power Production

The use of peat as a fuel for electric power production has never been attempted in the United States even though there is more peat available than any other fossil fuel with the exception of coal. While peat has been used as a direct burning fuel for power generation in foreign countries, harvesting techniques and the materials handling problems are likely to be quite different in the United States. Rural electric systems, particularly in North Carolina, would welcome the opportunity to work with the DOE in developing a first-of-a-kind large scale demonstration facility for the direct burning of peat for power generation. Most existing work is directed toward peat gasification. We believe that direct burning of peat shows greater immediate promise for utilizing these vast resources, and we respectfully request that $4 million be earmarked in the FY '82 budget for the initial phase, including a feasibility study, for a large scale direct combustion peat power plant.

Wind and Solar R&D

The cuts in the photovoltaics program, while they allow for the continuation of the intermediate scale applications of the technology and the continued investigation of the interconnection of these systems with electric utilities, do not allow for a utility scale demonstration of the technology. This puts the photovoltaics program on an unfair footing when compared with the solar thermal electric program and its utility scale Barstow project.

When there is a significant breakthrough in the cost of photovoltaic cells, utilities can be expected to consider utility scale generating plants. We urge that an additional $5 million be earmarked for a utility scale photovoltaic demonstration program so the technology can be readily commercialized when the breakthroughs occur.

We are also concerned that the low level of funding for the wind energy program (from a practical standpoint) will result in abandonment of federal support for the development of wind systems and the equipment needed to interconnect them with utility systems to provide utility quality power. It is extremely important that wind machines being sold to the public be reliable and safe for both the owner and the public. We suggest that an additional $2 million be included for a testing and standards program to assure safety of these devices.

We appreciate the opportunity to present these views of the FY '82 budget needs of DOE on behalf of the nation's rural electric cooperatives.

RESOLUTIONS

Adopted at the 39th Annual Meeting of NRECA

January 25-29, 1981

San Francisco, California

Research and Technological Development (J)

Building Energy Performance Standards

Rural electric cooperatives support the need for stringent standards for energy efficient buildings as mandated by Congress in the Energy Conservation Standards for New Buildings Act of 1976 (Title III, PL94-385).

We feel, however, that the intent of the legislation would be severely distorted by incorporating in the proposed Building Energy Performance Standards such concepts as "weighting factors" and "life cycle costing" and considerations other than efficiencies in new buildings. Such concepts that have been proposed would permit building designers to design a *less* efficient building if the fuel to be used is natural gas or oil; and we feel that this is contrary to national energy policy and dilutes efforts to promote energy conservation.

A better approach would be for standards to be directed *only* at the building envelope (without concern for energy source or appliance efficiencies) to assure that it is designed to attain maximum practicable efficiency throughout its useful life. Such an approach would also permit use of passive solar techniques, something which was not specifically recognized through the BEPS as originally proposed.

We urge that the new standards be at least as stringent as those developed, and in use, by the Farmers Home Administration of the U.S. Department of Agriculture. We suggest that it would be a simple matter to determine the thermal performance of residential buildings constructed according to these standards, and we strongly recommend that the new BEPS simply require this thermal performance as a minimum in residences and mobile homes. This approach would provide performance standards so necessary for early implementation and success in achieving energy efficient buildings.

Interconnection of Small Power Producers and Cogenerators

Rural electric systems recognize the importance of, and support the optimum development of renewable, alternative, and supplementary energy resources. As evidence of this, they are actively conducting research on various approaches to such development and also on the technological issues involved in implementing section 210 of the Public Utility Regulatory Policy Act (regulations requiring interconnection between utilities and small power producers and cogenerators, and requiring cost based rates the utilities should pay for the energy these facilities produce).

Rural electric systems are also conducting studies prior to establishing guidelines for interconnection which will be designed to protect both the small power producer/cogenerator and the utility and its membership.

There is considerable misrepresentation or implication by sellers of equipment as to what small wind and other small power generating systems will produce (what their payback period will be and how much energy they will produce). In addition, improper equipment and installation practices can result in subutility grade power, actual damage to utility equipment, interference with local telephone, TV, and radio reception, and danger to linemen and the public.

We urge the Federal Energy Regulatory Commission (FERC), NARUC and State Public Service Commissions to review regulations that apply to potential power producers and require small power producers and cogenerators to consult with the utility on plans to purchase and install power generation equipment before purchase commitments and/or installations are made.

Support for Federal Energy-Related Research

The proliferation of regulatory and environmental constraints being imposed on all electric utilities is resulting in more costly, less efficient power production and in increased burden to consumers. Electric cooperatives in their continued efforts to provide adequate, reliable electric power to meet public demand are deeply concerned about the rapidly escalating costs of power due to these constraints. One answer to the problem lies in the development of improved technology for greater efficiencies and lower costs.

Therefore, we urge Congress to provide the necessary funding and support to maintain a strong federal energy research and development effort to develop improved technology for more efficient generation, transmission, distribution, and utilization of electric power.

Technologies which show promise for near-term commercial power production and which deserve increased funding and support now include the following: fuel cells; fast-breeder reactors (including both liquid-metal and gas-cooled); small-scale hydro; geothermal; peat, lignite, and coal technologies such as gasification, liquefaction, and pressurized fluidized bed combustion; and energy management and storage technologies including compressed air, underground pumped hydro, and battery storage. Other technologies which show some potential over the longer term include: Magnetohydrodynamics (MHD), solar, wind, and biomass.

We especially urge increased funding for Electric Energy Systems research in such areas as electric field effects, underground cables (both AC and DC), compact substations HVDC (overhead), and studies on the impact of alternative and supplementary energy sources on utility systems.

These and other technologies which have near-term potential for greater cost savings must be developed, demonstrated, and put into commercial operation without delay. Special attention should be given to research problems involved in integration of these technologies into existing systems so that such systems will not be unnecessarily disrupted.

We urge the federal government to coordinate its efforts with the Electric Power Research Institute (EPRI).

Energy Efficiency Technology

Conservation, by efficient production and use of energy, will play an important role in the present and future national energy strategy. Rural electric systems pledge their continued efforts to assist their member consumers in the wise and efficient use of electric power.

To maximize the potential for efficiency in electric energy production and use, however, considerably more effort on research, development and demonstration of new energy-efficient technology is urgently needed. This includes expanded research on load management techniques and equipment, and on the technology, economics and impact of integrating new sources of energy into existing utility networks.

In addition, work to further improve efficiencies in electric power distribution is needed. Distribution losses alone result in significant loss of peak load capacity of annual energy production. The annual value of such losses for the industry could be appreciably reduced with improvements in transformer loss characteristics, power and load factors, and other design and operating parameters.

We believe that further research can make such improvements economically feasible and we strongly urge the administration and Congress to fully support an expanded long range program of transmission and distribution loss reduction research; and on such other technologies that might beneficially impact on the electric distribution system.

Continuing Resolutions

The following resolutions deal with policies and programs which previously have been approved by the NRECA membership. These Continuing Resolutions have been subjected to the same scrutiny and review by the Standing Committees and the Resolutions Committee as in the past. Changes and deletions in Continuing Resolutions, adopted by the membership in San Francisco, have been made and the resolutions renumbered.

17. ELECTRIC VEHICLE RESEARCH—A viable electric vehicle would significantly reduce the consumption of non-renewal resources and help to eliminate the major source of air pollution. Research toward developing such a vehicle is now underway, and the successful completion of such efforts could significantly alter the load patterns and requirements of rural electric systems. We support electric vehicle research efforts now underway and urge further involvement and effort by others, including the federal government, to expedite this important development. We also urge that in conjunction with this research studies be undertaken to determine the changes in electric system loads that may result from such a development. (J-1975)

147. EXTRA HIGH VOLTAGE TRANSMISSION LINE RESEARCH—The increased use of extra high voltage (EHV) overhead transmission lines for transmitting electric power by rural electric cooperatives is essential if we are to continue to provide the electric power needs of rural America. Recent experiences in acquiring right of way and constructing such EHV lines have revealed serious misconceptions, mystique, and fearfulness on the part of the general public as to the electric field effects on vegetation, animals, and even people living in close proximity to such EHV lines.

Although such concerns are not supported by scientific evidence, we have an urgent need to provide positive, scientifically demonstrated evidence that there are no significantly adverse effects upon vegetation, animals and people living in close proximity to such EHV lines. NRECA urges the Congress and the appropriate federal agency to adequately fund electric fields research work involving both alternating and direct current overhead EHV lines and disseminate such information to the public. (J-1981)

148. GOVERNMENT NUCLEAR INFORMATION PROGRAM—The American public is concerned and confused by the wide variety of opinions and alleged "facts" presented on nuclear power from hundreds of sources. There is no single recognized creditable source of such information which members of the public and the Congress can use with confidence, or which will be universally accepted. Such misinformation about nuclear power has been disseminated without challenge. The result could be disastrous to our nation's National Energy Policy.

Rural electric cooperatives believe that the American public should be confronted with the true facts about nuclear power and we believe that it is the responsibility of the federal government to see that proper and accurate information based on scientific research and analysis is widely disseminated.

We propose that Congress take immediate steps to formulate a program and budget (similar to the Conservation and Solar Information Program) to properly inform the public about nuclear power and challenge misinformation. (J-1981)

149. FEDERAL SUPPORT FOR PEAT AS FUEL FOR POWER GENERATION—Rural electric cooperatives have great interest in the development of peat as a viable power plant fuel for use in the United States.

There is more peat available in this country than any other fossil fuel with the exception of coal. Current technology for utilizing peat as a direct burning fuel for power generation has been used in foreign countries but harvesting techniques and peat-fired power generation have not been proved in the United States. The first demonstration facility to hasten the development of this new fuel will be costly since it will be the first of a kind plant in the United States.

The risk associated with the development of these facilities utilizing private investment could result in significant delays in the utilization of this most valuable fuel. Therefore, it is both essential and proper that the federal government assume a significant portion of the financial burden for a large scale demonstration facility.

We urge the Administration with the support of Congress to cooperate with rural electric cooperatives and all other segments of the utility industry in the development and testing of a demonstration power facility utilizing peat as a boiler fuel. (J-1981)

145. FEDERAL SUPPORT FOR FUEL CELL COMMERCIALIZATION—Rural electric cooperatives have great interest in the development of fuel cell power plants because of significant advantages not found in conventional generating equipment. These characteristics show promise of economic benefits for the consumer, improved service availability, conservation of fuel resources, and a cleaner environment.

Commercialization of fuel cell power generation is so near, yet so far from being achieved. The phosphoric acid fuel cell has been developed to the point of large-scale demonstration at the power plant level. But the continued commercial development of the fuel cell continues to need major federal government financial support.

The next step in establishing commercial viability involves broad exposure in the market environment. The risk of proceeding as a strictly private investment has become unacceptably high, due to the economic climate and changing and unpredictable government involvement in utility decisions.

It is both essential and proper that the federal government assume a significant portion of the financial burden. We urge the Congress through the appropriate federal agency to support a comprehensive integrated program with all segments of the utility industry to provide a basis for commercial fuel cell power plant development for electric utility service. (J-1981)

146. REDUCED DEPENDENCE ON PETROLEUM THROUGH RESEARCH—Continuation of present energy policies that encourage increased oil imports will have a disastrous effect on this nation's economy and living standards. All indications are that imported oil prices will continue to rise.

We believe that this Nation must act promptly and decisively to reduce dependence on imported oil; and a major part of that effort should involve an expanded research, development, and demonstration (RD&D) and commercialization program.

We believe that emphasis on the following programs is essential to ultimately achieve reduction of dependence on foreign oil:

1. Development and commercialization of acceptable processes to produce synthetic fuels from existing abundant fossil fuels and renewable energy resources;
2. Development and demonstration of electric power production emphasizing economically feasible supplemental/alternative energy resources and improved technology in coal utilization;
3. Establishment of policies to shift from an oil-based economy to an electric economy where abundant coal and nuclear resources can be fully utilized; and
4. Development and commercialization of conservation technologies, more efficient electric appliances and equipment (*i.e.*, energy efficient heat pump water heaters), and electric vehicles which—in many instances—can replace gasoline-powered vehicles.

We welcome the new initiatives of REA in providing loan funds related to the supplemental energy field and encourage rural electric cooperatives to take full advantage of this opportunity, along with other available funding, to help bring emerging supplemental alternative energy technologies into the commercialization stage.

We respectfully urge the President and the Congress to act promptly to establish policies and to fund major RD&D and commercialization programs, as outlined, that can begin to reduce the stranglehold that oil-producing nations now have over us. We further urge that rural electric cooperatives, as consumer-owned organizations, be recognized as ideal utilities to implement demonstration and commercialization programs and that the Rural Electrification Administration be given authority and the funding to carry out these programs with the assistance of NRECA. (J-1981)

STATEMENT OF JOHN J. KEARNEY, SENIOR VICE PRESIDENT, EDISON ELECTRIC INSTITUTE

The Edison Electric Institute has reviewed the Nuclear Regulatory Commission's "Budget Estimates Fiscal Year 1982" (NUREG-0704, January 1981), and we believe that modifications are needed within the budget to achieve the desired work output. The Institute is the association of investor-owned electric utilities and its members provide about 78 percent of the nation's electricity, serving over 67 million customers. We are deeply concerned that the proposed NRC budget does not reflect actions and allocation of resources necessary to cope with the regulatory delays currently confronting the NRC in its power reactor licensing program.

The recently identified delays in NRC's nuclear licensing process and backlog of pending licensing actions are likely to cost the nation's consumers of electricity several billions of dollars unnecessarily, in higher rates. In addition, the uncertainty of the regulatory process is threatening nuclear power as a viable means of generating electricity and as a means to reduce this country's dependence on imported oil.

The NRC's first priority should be to complete its review of pending applications for operating licenses and construction permits, to stabilize programs directed at reassessing the safety of operating plants, and to process on a timely basis applications for the approval of amendments to licenses necessary for continued operation and construction of plants. The budget elements proposed in two sections of NUREG-0704, those sections describing activities in the Office of Nuclear Reactor Regulation and Program Technical Support, seem to be particularly unresponsive to the need to achieve these goals. A much larger percentage of the manpower and funding resources should be allocated to these functions that are of primary importance.

The Office of Nuclear Reactor Regulation (NRR) has the responsibility for regulatory activities associated with operating power reactors and for performing the safety, environmental and anti-trust reviews for applicants for construction permits (CPs) and operating licenses (OLs). In spite of the crucial nature of these responsibilities, the proposed FY 82 budget allocates to NRR only 20% of total NRC personnel (681 of 3,396 employees) and 15% of the total NRC budget ($75,610,000 out of $500,700,000). In particular, the budget actually proposes a reduction in personnel assigned to licensing casework from 198 in FY 81 to 157 in FY 82. This inadequate allocation is less than five percent of NRC's proposed manpower level.

The budget dollars allocated under Program Technical Support include the funding for the Atomic Safety and Licensing Board Panel (ASLBP). The ASLBP is the source of the three-person hearing boards which conduct the adjudicatory hearings on the issuance of CPs and OLs. No increases in personnel are proposed for the ASLBP, yet in recent meetings the NRC has noted that the large number of upcoming CP and OL hearings will severely strain the resources of the ASLBP, with potential delays resulting. Larger resources should be allocated to this function.

Other sections in the proposed budget show similar inconsistencies. The Office of Standards Development (OSD) budget plan fails to recognize that the agency's power reactor licensing program is in trouble and does not identify OSD programs that could assist the agency in recovering from the major backlog position. While Reactor Engineering Standards will continue to "focus on" (NUREG-0704, p.19) needs identified by the TMI accident, there is a 25 percent reduction in funds and a reduction of one person for this effort; and even though siting standards are not high on the priority list for NRC recovery, OSD plans to increase the budget for siting activities. The Office of Nuclear Regulatory Research (Research) budget also fails to identify how its programs are designed to support a goal of prompt licensing and reassessment of the safety of operating plants. The Research budget on severe accident phenomenology and mitigation, which lies at the heart of degraded core concerns, is increased by only 2 percent and one person; yet siting and environmental research undertaken by Research will receive a 20 percent increase in its budget. There is no explanation or justification for this seeming paradox.

These inconsistencies reflect a failure by the Commission to articulate its goals and priorities, and a failure to coordinate the activities of its organizational components to assure that specified goals are met. We have followed the efforts in recent weeks by the NRC staff to develop a recovery plan that attempts to coordinate regulatory activities, and hope that it will be successfully developed and implemented. We believe that it would be very useful to have the NRC appropriation include an allocation of NRC fiscal and personnel resources calculated to reduce licensing delays. We believe also that Congress should monitor the Commission's progress by continuing the requirement that the NRC submit periodic reports to Congress and for Congress to hold periodic hearings to assure that progress continues to be made on the recovery plan.

The budget process can be an effective mechanism for an agency to develop its goals and organize its programs to achieve those goals. We hope Congress will require that in future years the NRC make more effective use of its budgeting procedures for those purposes.

Department of the Treasury News Release

REGAN FOR CONVENTIONAL FINANCING OF OIL RESERVES

Secretary of the Treasury Donald T. Regan today said that the Strategic Petroleum Reserve should be financed through the use of conventional debt instruments fully backed by the credit of the United States.

"Special market issues of 'oil bonds' with maturity values indexed to the price of oil are simply not feasible for a multi-billion dollar program such as the SPR," he said. "The marketability of any such novel oil bond issues would be extremely limited, and their issuance would entail substantially higher financing costs to the Government. We simply could not sell such highly speculative securities in sufficient size at reasonable costs to raise the sums needed for the SPR within the required time frame."

Secretary Regan recommended against any alternative proposals for private financing of the SPR that would require the private sector to build up petroleum stocks.

"Such interference with the marketplace is of dubious legality," Secretary Regan said, "and is wholly out of keeping with the free market approach of this Administration and with traditional notions of Federal responsibility. Like the furnishing of national defense, the stockpiling of strategic commodities is essentially a Federal function and should be Federally financed."

"The method of financing the SPR must provide an assured source of funds," he said, "regardless of current market conditions, and must be flexible enough to accommodate the special needs of the SPR program, for example, a possible requirement for large oil purchases on short notice to take advantage of favorable prices."

"We must have an assured source of funds to meet current interest payments on the securities and the flexibility to refund maturing issues," he said. "In these circumstances, any legislation to authorize debt financing of the SPR should provide for a backup source of funds, such as authority to borrow from the Treasury, to ensure the Government's ability to make good on its debt and thus to ensure the lowest possible financing costs for the taxpayer."

STATEMENT OF EDWARD Z. GRAY, DIRECTOR, SYSTEMS DEVELOPMENT, AEROSPACE-ELECTRONICS GROUP, BENDIX CORP.

In recent discussions with members of your staff, they indicated that your subcommittee would welcome a statement from Bendix which expresses our views regarding the role that the U. S. Government should have in the wind energy market. We appreciate this opportunity to present our views as Bendix has made and is continuing to make a major financial investment in this field and believes wind energy can make a substantial contribution toward the reduction of our national dependence upon foreign petroleum supplies.

The government through the DOE programs has accomplished a much needed function in demonstrating that modern technology is available to build wind energy conversion systems which can be economically competitive with other forms of generating electricity. Without such a stimulus, American industry could not now move forward with wind energy in a major way.

DOE/NASA's Mod 5 program is probably the last of these demonstration projects needed in the near future to illustrate to both the suppliers and users of wind energy conversion systems the maximum performance potentials of large megawatt machines.

Now that there are enough major firms involved in developing production oriented windmills to provide an industrial base for large scale use of these machines, the government's role should change. It should move in the direction outlined by the Wind Energy Systems Act of 1980 (PL 96-345).

It should phase down its direct support for demonstration projects and increase the incentives for energy producers and users to install wind energy conversion systems. Although our analyses show that these installations can be cost competitive with new installations of other forms of energy conversion to electricity, there has not been enough operational experience with windmills of this type to reduce the introductory risks to an acceptable level for the early users. Therefore, the government should help minimize the risk for these early users by means of tax credits, subsidies, loan guarantees, grants and/or market price guarantees. With such support the user and windmill supplier can arrive at formulae for sharing these early operational risks which will make these installations attractive business ventures.

If the government does not take early action the entry period for windmills will be greatly extended and the major contribution that wind energy can make to our nation's energy supply will be delayed. It also should be recognized that corporate interest, although currently substantial, can dissipate rapidly if the market does not show vigorous growth potential. Accordingly, the value of the government's investment in creating the industrial base for wind energy will have been greatly reduced.

There is a continuing R&D role in wind energy that the government should support. Major questions still remain unanswered on windmill blade life, operational time availability, maintenance levels required, etc. There are technology areas such as large windmill propeller developments, high speed gear trains, variable speed generators, etc. which need continued R&D to improve the efficiency of these machines. These are areas in which the suppliers will not now support R&D due to the limited business volume which appears probably during the next few years. Based on past history, there is precedent for the national government to sponsor such research during the early introductory time period for new energy forms - such as occurred for the development of nuclear energy.

In addition, the national government has traditionally supported environmental research to develop the data which define the performance parameters used by equipment designers as did the former NACA for airplane designs. This is needed in the wind energy field. The government should support research to determine turbulence levels, dimensions and frequencies that exist within the different wind regimes, including the effects of different categories of site terrains. It also should install and maintain instrumentation to provide long term records of the wind velocities at the key wind site areas in this country in a manner similar to the U. S. Geological Survey's stream flow measurement program. This information will provide valuable planning data to determine the usable wind energy resources available in this country.

Finally, there are many unanswered questions relating to the interference effects between windmills when they are clustered into a wind energy park. Windmill siting criteria has not been accurately defined for such clusters. The present rule of thumb siting criteria if followed,will have a major impact on the real estate requirements for large groupings of machines.

I trust that these comments will be of help to the Committee in its deliberations. We will be pleased to meet with your group and expand on our views at any time that you may wish.

Thank you for this opportunity to comment.

SUBCOMMITTEE RECESS

Senator JOHNSTON. We will now recess until 2 p.m.

[Whereupon, at 11:40 p.m., the subcommittee was recessed to reconvene at 2 p.m., the same day.]

(AFTERNOON SESSION, 2 P.M., TUESDAY, MARCH 24, 1981)

NONDEPARTMENTAL WITNESSES

Chairman HATFIELD [presiding]. The subcommittee will come to order.

We have a large number of witnesses today in continuation of our hearings with public witnesses. Therefore, in accordance with the notification we presented to each witness, it will be necessary to take some self-restraint on the part of everyone in order that we may hear all who have come to testify. We will probably be interrupted periodically today with votes on the floor, so that will add to our time problem as well.

I ask that all the detailed, prepared statements that each of you have carefully worked on be submitted for the record where they will be scrutinized and reread many times. That is the record the subcommitte will actually use in making final determinations and recommendations for the upcoming year.

Also, in this way you will have a carefully detailed record so that members who are not present will be able to arrive at an independent judgment. Then if each witness will merely summarize or highlight the important points in his oral testimony, it will be most helpful.

I am pleased to invite Governor Bruce Babbitt of Arizona to come to the table.

Governor, it is nice to have you here today. I welcome you to the committee. Sorry I missed you on my last trip to your State, but I am very happy to welcome you to Washington today.

CENTRAL ARIZONA PROJECT

STATEMENT OF HON. BRUCE BABBITT, GOVERNOR OF ARIZONA

ACCOMPANIED BY:

WESLEY STEINER, DIRECTOR, ARIZONA DEPARTMENT OF WATER RESOURCES

Governor BABBITT. Senator Hatfield, thank you very much. I hope you will come back to Arizona soon.

I am here to testify today on behalf of the Central Arizona Project. I have with me on my left Mr. Wesley Steiner, who is the director of the department of water resources from the State of Arizona.

PREPARED STATEMENT

Mr. Chairman, I have a prepared statement and a number of letters of support from various Arizona groups, plus, perhaps most importantly, a letter of support from the Metropolitan Water District of southern California. If I may, I would like simply to submit those for the record.

Chairman HATFIELD. They will be received and printed in the record.

Governor BABBITT. Thank you.

[The statement follows:]

Statement of Gov. Bruce Babbitt of Arizona

This is my fourth annual appearance before this Committee as Governor of Arizona to speak in support of funding for the Central Arizona Project, which has been in process of construction since 1972. I do so again this year with the same conviction that what I ask is right and essential for the well being of the people of our State and in the best interest of the Nation as a whole.

It is my understanding that the President's budget for fiscal year 1982 proposes an appropriation of $186,500,000 for continuing construction of the CAP, and that that amount of funding is expected to meet the requirements for maintaining the project completion schedule. That being the case I strongly support the recommended appropriation.

I appreciate the fact that the Congress has to date provided funds for CAP construction at a rate commensurate with the work capability of the Water and Power Resources Service. Although that has produced results that fall short of the original estimate that the project could be completed in ten years, I am pleased that construction has progressed as well as it has. As you well know, delays are extremely expensive due to rising costs. It is, therefore, in the best interests of the Federal Government, and of project beneficiaries who must repay the reimbursable costs of construction, that the project be completed as quickly as possible.

All but 43 miles of the 190-mile Granite Reef Aqueduct is now essentially completed or under contract for construction. Work on the Salt-Gila Aqueduct is now underway with contracts for the Salt-Gila Pumping Plant, and Reach 3 of the aqueduct. We hope to see contracts awarded in the 1982 fiscal year for work on additional reaches of the Salt-Gila Aqueduct, and on the remaining three reaches of the Granite Reef Aqueduct.

There are some problems which have delayed the design and the Environmental Impact Statement for the Tucson Aqueduct. These should be resolved very soon, so that construction on that essential part of the project can proceed on schedule.

Arizona's recommendations for the allocation of project water have not been acted on by the Secretary of the Interior pending a determination of the quantities of water to be delivered for use on Indian reservations.

It is no secret, I suppose, that I made a great effort to resolve this problem in cooperation with the former Secretary of the Interior, but with no real success. I am continuing that effort with Secretary Watt, and I believe the problems may soon be resolved to the satisfaction of all concerned so that project water can be allocated to non-Indian uses in the very near future.

We have arrived at the point where we must begin design and construction of the facilities necessary to treat and move project water from the aqueduct to the ultimate users. I am requesting that $2 million of the total CAP appropriation be designated as the first appropriation of the $100 million authorized in 1968 for non-Indian distribution systems and identified specifically for the Maricopa-Stanfield Irrigation Distribution System Project. The Maricopa-Stanfield Irrigation and Drainage District has filed its distribution system loan application with the Water and Power Resources Service and is prepared to proceed.

In the interest of saving water and energy I ask that you give favorable consideration to an appropriation of $300,000 to the Yuma Mesa Irrigation and Drainage District, Gila Project, and the Unit B Irrigation and Drainage District, Yuma Auxiliary Project, under their respective, repayment and rehabilitation and betterment obligations to the United States, to permit installation of an additional regulatory pump and additional pumping capacity at the Yuma Mesa Pumping Plant. The addition of this pump will increase pumping flexibility and save energy.

Last year I reported to you that our State Legislature was in the process of preparing a new groundwater management law which has for many years been advocated, if not actually demanded, by the Federal Government in association with the Central Arizona Project.

I can assure you that it was not a simple task. I spent a great deal of my time personally in the effort to arrive at an

EQUITABLE AND GENERALLY ACCEPTABLE SOLUTION OF THE MANY PROBLEMS INVOLVED. SO DID THE MANY LEGISLATORS WHO SERVED ON THE STUDY COMMISSION.

THAT LAW -- AND I BELIEVE IT IS A SOUND LAW -- WAS ENACTED IN JUNE OF 1980, AND THE NEW ARIZONA WATER RESOURCES DEPARTMENT, HEADED BY WESLEY STEINER, IS MOVING AS QUICKLY AS POSSIBLE TO FULLY IMPLEMENT IT. AMONG THE NEW LAW'S MANY PROVISIONS, FOUR ACTIVE GROUNDWATER MANAGEMENT AREAS ARE ESTABLISHED, COVERING THE CENTRAL ARIZONA PROJECT SERVICE AREA.

IT IS NOT POSSIBLE, IN THE TIME ALLOWED, FOR ME TO OUTLINE THE MANY DETAILS OF THE LAW, BUT I CAN ASSURE YOU THAT ARIZONA NOW HAS IN PLACE ONE OF THE BEST, MOST FORWARD LOOKING, WATER MANAGEMENT AND CONSERVATION LAWS OF ANY STATE IN THE NATION.

IT DOES NOT, AND CAN NOT, REDUCE THE URGENCY OF OUR NEED FOR THE CENTRAL ARIZONA PROJECT. THE TWO THINGS, WORKING TOGETHER, CAN, HOWEVER, MAXIMIZE THE VALUES OF EACH IN THE SEARCH FOR AN IMPROVED WATER BASE FOR OUR CHANGING AND GROWING ECONOMY.

IF I MIGHT FOR A MOMENT TURN TO FUNDING FOR THE CORPS OF ENGINEERS ACTIVITIES IN ARIZONA, I WANT TO STRONGLY SUPPORT THE $12.1 MILLION WHICH IS NOW IN THE PRESIDENT'S BUDGET. IN 1978, '79 AND AGAIN IN 1980 ARIZONA EXPERIENCED DISASTROUS FLOODING, FLOODING THAT BROUGHT HOME DRAMATICALLY THE NEED FOR EXPEDITED CONSTRUCTION OF THE FLOOD CONTROL PROGRAM INITIATED A FEW YEARS AGO BY THE CORPS IN THE PHOENIX METROPOLITAN AREA. WE MUST HAVE THESE PROJECTS AS SOON AS POSSIBLE. I UNDERSTAND THAT THE CORPS HAS IDENTIFIED CAPABILITIES OF AN ADDITIONAL $1.8 MILLION ON ONGOING PROJECTS WITH A MAJOR PORTION OF THAT AMOUNT ASSOCIATED WITH THE NEW RIVER UNIT THAT WILL PROVIDE PROTECTION FOR THE WESTERN PORTION OF THE PHOENIX AREA. SIX HUNDRED THOUSAND DOLLARS OF THAT CAPABILITY INVOLVES STUDIES ON RILLITO CREEK IN TUCSON AND ON THE UPPER GILA RIVER NEAR THE ARIZONA-NEW MEXICO BORDER. UNLESS THE PRESIDENT'S BUDGET IS MODIFIED THERE WILL BE NO FUNDING FOR ANY WORK ON THESE LOCALLY ACUTE FLOOD PROBLEMS. YOUR CONSIDERATION OF ADDITIONAL FUNDS FOR THESE PROBLEMS WOULD BE GREATLY APPRECIATED.

I AM ALSO CONCERNED THAT ONLY $100,000 HAS BEEN INCLUDED TO PERMIT COMPLETION OF CORPS PARTICIPATION WITH THE WATER AND POWER RESOURCES SERVICE IN THE CENTRAL ARIZONA WATER CONTROL STUDY. IN THE EVENT THE FLOOD CONTROL AND REGULATORY STORAGE ALTERNATIVE SELECTED AS A RESULT OF THE STUDY REQUIRES CONTINUED CORPS' PARTICIPATION, I ASK THAT THE CORPS' STUDY CAPABILITY IN ARIZONA BE INCREASED BY $750,000.

STATEMENT OF ROBERT WILL, WASHINGTON REPRESENTATIVE, METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

The Metropolitan Water District of Southern California appreciates this opportunity to appear before this Committee to express its support for the Administration's fiscal year 1982 appropriation request for the construction of the Central Arizona Project.

My name is Robert Will and I am the Washington Representative of the Metropolitan Water District.

The President's program for the Water and Power Resources Service (WPRS) proposes an expenditure of $186.5 million for the year beginning October 1 to continue the construction of this multi-purpose water development project for the State of Arizona. We in Southern California, who are partners with Arizona and Nevada in the Lower Colorado River Basin served by the Colorado River, support this vital water delivery system to serve our Arizona neighbors.

The proposed funding is in keeping with the commitment of the WPRS to make the first delivery of water to Phoenix and Pinal County in 1985 and to Tucson in late 1988 or early 1989. WPRS construction program needs to be maintained in order to meet these goals.

Metropolitan strongly urges your support of the budgeted amount for the Central Arizona Project for fiscal year 1982.

STATEMENT OF HOWARD WUERTZ, PRESIDENT, CENTRAL ARIZONA WATER CONSERVATION DISTRICT

My name is Howard Wuertz of Coolidge, Arizona. I am the President of the Central Arizona Water Conservation District and present this statement on behalf of the District.

In 1968, Congress enacted the Colorado River Basin Project Act (P.L. 90-537) which authorized the construction of the Central Arizona Project. Among other things, it provided that the Secretary of the Interior could contract for the repayment of the costs of the Project either with individual water using entities or with a single political subdivision of the State of Arizona authorized to levy assessments against real property. The Secretary, in combination with the Office of Management and Budget, elected to follow the latter course and so advised officials in Arizona.

In 1971, the Arizona legislature enacted the necessary statutory authority for the creation of a multi-county water conversation district. Pursuant to this authority, the District was formed, composed of the three Central Arizona counties of Maricopa, Pima and Pinal.

The District was authorized by law to contract with the Secretary for the repayment of Project costs which might be allocated to it plus its share of operation, maintenance and replacement costs. In addition, the District was given authority to levy an ad valorem tax at a rate not to exceed 10¢ per $100 of assessed valuation on the taxable property within the District boundaries. It also may subcontract, in conjunction with the United States, for the sale of water to water users within the District and make charges therefor.

Shortly after the formation of the District, negotiations were undertaken with representatives of the

Department of the Interior. These culminated in a repayment contract which was executed on December 15, 1972. Pursuant to this agreement, the District has undertaken to repay to the United States the costs of the Central Arizona Project which may be allocated to it plus appropriate charges for operation, maintenance and repair charges. The District is ready and willing to fulfill its obligations under such contract, and for several years has levied an ad valorem tax to assist in meeting these obligations.

The Water and Power Resources Service has set a completion date of 1985 for those portions of the Project which will deliver water into Maricopa and Pinal Counties and 1987 for the completion of the works necessary for the delivery of water to the Tucson area. It is estimated that, because of inflation, any delay in this construction schedule will add millions of dollars to the cost of the Project. The bulk of this additional burden would have to be borne by the water users and taxpayers of Central Arizona. It is imperative that there be appropriate for FY 1982 all funds which reasonably might be expended by the Water & Power Resources Service in meeting the proposed construction schedule. We earnestly urge the Congress to include these necessary funds in the Interior Department appropriation bill.

At the present time the Department of the Interior and the Corps of Engineers are jointly conducting studies to determine the best alternative for providing regulatory storage for the CAP and flood control on the Salt and Verde Rivers to protect Phoenix metropolitan and downstream areas. The preferred plan will be identified in 1981 and the final environmental impact statement will be filed with the Environmental Protection Agency in 1982. Serious flooding has occurred on the Salt and Verde Rivers in recent years and there is a possibility of a reoccurrence of floods in the very near future. The Department and the Corps should be directed to commence, as soon as the preferred plan is identified, and to complete at the earliest possible date advanced engineering and design studies of the preferred plan.

I wish to thank you for the opportunity to appear and present this statement to the committee.

RESOLUTION NO. 4589 OF MESA, ARIZ., CITY COUNCIL

WHEREAS, the Central Arizona Project has been partially funded and partially constructed; and

WHEREAS, because of the ever increasing population in the Mesa water service area and the need for continued use of water for irrigation purposes to support the local economy, it is urgent that the Central Arizona Project be completed as soon as possible; and

WHEREAS, delays in completing the Project can only result in greatly increased costs.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF MESA, MARICOPA COUNTY, ARIZONA, AS FOLLOWS:

Section 1: That the City Council of the City of Mesa does hereby urge that funds be made available for the continued construction of the Central Arizona Project on a schedule for completion at the earliest time possible because of the urgent need for water in the area and the ever increasing costs should the Project be delayed.

Section 2: That copies of this resolution be furnished to the Senate and House Appropriations Subcommittees on Energy and Water Development to bring to the attention of such committees the urgent need for the Project and the wide public support therefor in the State of Arizona.

PASSED AND ADOPTED by the City Council of the City of Mesa, Maricopa County, Arizona, this 9th day of March, 1981.

STATEMENT OF MARGARET T. HANCE, MAYOR, PHOENIX, ARIZ.

I would like to take this opportunity to express the importance to the City of Phoenix of the early receipt of Central Arizona Project (CAP) water. Last year, we provided water service for over 750,000 residential customers and nearly 25,000 commercial, industrial and governmental accounts. In total, we delivered over 75 billion gallons of about 230,000 acre feet of water! By 1985, we expect the demand to grow to 85 billion gallons.

While we have access to large quantities of good quality surface water from the Salt River Project (SRP), we do not have sufficient water of adequate quality to meet our growing needs in areas outside of the SRP. The preliminary allocations of CAP water will provide only about 65% of Phoenix' needs in these areas starting in 1985. Continued pumping and strict water conservation will be required to bring supply and demand into balance even after delivery of the Central Arizona Project water. Without the delivery of CAP water on schedule, our citizens would face economic hardships brought about by the City's inability to provide adequate water service to all of its customers.

The City of Phoenix respectfully requests that you consider the foregoing information during your subcommittee's deliberations on the Central Arizona Project funding. Thank you for your attention to this important matter.

RESOLUTION OF PHOENIX (ARIZ.) METROPOLITAN CHAMBER OF COMMERCE

Whereas, the Phoenix Metropolitan Chamber of Commerce and its Congressional Action Committee are vitally concerned with water supply in Central Phoenix;

Whereas, the long-term dependable supply of water in Central Arizona is inadequate for meeting the economic needs of this fast-growing area; and

Whereas, the Central Arizona Project, authorized by the Congress in 1968 and presently under construction affords the best means of substantially alleviating the problem;

Be it resolved, that the Phoenix Metropolitan Chamber of Commerce reaffirms its support for legislation to appropriate whatever funds are required to maintain a construction completion schedule for delivery of water at the earliest possible time.

Be it therefore further resolved, that the Chamber encourages the endorsement and support of the Arizona Congressional delegation in urging the Congress of the United States for resolution of these needs, including, but not limited to as outlined in this resolution.

Respectfully submitted this 4th day of February, 1981.

PHOENIX METROPOLITAN CHAMBER OF COMMERCE

By ____________

LETTER FROM HERBERT R. DRINKWATER, MAYOR, SCOTTSDALE, ARIZ.

February 26, 1981

The Honorable Mark O. Hatfield
Chairman
Subcommittee on Energy and Water Development
Committee on Appropriations
U.S. Senate Office Building
Washington, D.C. 20510

Dear Senator Hatfield:

The purpose of this letter is to emphasize the extreme importance to the cities of central Arizona that the completion of the Central Arizona Project represents. As the Mayor of Scottsdale, a city of 88,000 people, located in the Phoenix metropolitan area, I can assure your subcommittee that this project is vital to the maintenance of the standard of living and the quality of life for the people who now reside in our area.

The State of Arizona has recently enacted one of the most progressive and environmentally sound groundwater statutes in the nation. The Arizona Groundwater Code not only provides for a management system which will guarantee a rational and judicious allocation of this precious resource, but will, in fact, roll back the amount of groundwater pumping which will deplete this resource if unchecked. In other words, we are pursuing a policy which will not only stop the depletion but will actually allow for the replenishment of our groundwater. The importance of such a policy for a state in the arid area of the southwest cannot be overemphasized.

However, the success which the citizens of this state will experience will depend heavily on the completion of the Central Arizona Project. That source of supplemental surface water provides the only viable means by which our groundwater preservation program can be effective.

Its effectiveness will be measured also as to how successful we can be in preserving the quality of groundwater in central Arizona. We are experiencing the necessity to shut down water production from some wells in this valley because of deteriorating quality. Again, the Central Arizona Project is key to this effort. The Central Arizona Project could very well be the deciding factor as to whether some existing residents will have water in the future.

There are other factors involved which need not be belabored in this letter. I have attempted to limit my emphasis solely to the groundwater quality and quantity issues which tie directly into the CAP. We respectfully urge that the Congress give favorable consideration to the complete funding for this project.

Respectfully yours,

Herb R Drinkwater

Herbert R. Drinkwater
Mayor

STATEMENT OF LEWIS C. MURPHY, MAYOR, TUCSON, ARIZ.

The importance of the Central Arizona Project to all the water users in eastern Pima County cannot be overstated. The damage occurring as a result of the overdrafting of the ground water aquifer, varying from two to ten feet per year, causing differential subsidence in our urbanized area is potentially inestimable. Ground water levels in the Tucson area have dropped to a level where continued pumpage at current rates will create a situation where significant subsidence is predicted by experts.

Tucson's water demand will exceed the supply from current sources in 1988 if no new source is developed. This supply vs. demand projection is based upon slower growth than has been actually occurring. Although urban water use only represents twelve (12%) percent of the total region's use, Tucson has implemented one of the few successful water conservation programs in the United States. The citizens have voluntarily reduced the system's peak day demand from 152 mgd to 115 mgd for the last three years. More importantly the average daily per capita consumption has been reduced twenty-nine (29%) percent over a six year period from 205 to 146 gallons per capita per day. Tucson's commitment to conserve has been well demonstrated by continual support of a conservation ordinance, inverted rate structure, and an educational public relations program to communicate our critical water supply situation.

Tucson has and will continue to spend millions of dollars on its distribution, treatment, and storage facilities in changing our source of water supply from existing ground water sources to a proposed CAP surface water source. It is extremely important that a definitive commitment on the CAP be made as quickly as possible, to assure the continued orderly development of the receiving distribution system to assure a smooth transition in supply. Decisions need to be made as soon as technically possible on the allocation size, location, terminus, and storage of the Central Arizona Project in the Tucson area.

The continued delay in the project over unresolved issues still to be defined are continually causing inflation to drive up costs. The longer the delay, the greater the cost.

The Central Arizona Project has been nearly half completed without including Environmental Impact Statements, Arizona ground water laws or Indians' water rights claims. Someone should question the equity and the cost effectiveness of the delay created by initiating a whole new set of criteria for continued construction of a half completed project. Tucson is opposed to the introduction of these or any other new issues for insertion into the process at this time.

BUDGET REQUEST

Governor BABBITT. Just briefly, the administration has recommended an appropriation of $186,500,000 for the coming year's work on the Central Arizona Project. We support that. It is not all that we would like but, recognizing the exigencies of the national economic situation, we are grateful for that level of proposed assistance and we would urge the subcommittee to approve that.

The Central Arizona Project has, of course, been underway for many, many years. We are making, I believe, very substantial progress. The aqueduct in central Arizona is now about 80 percent complete, the first leg in Phoenix, construction activity, is now shifting upstream in the Pinal County of central Arizona and there the design and engineering and construction begins to focus on the southern leg of the project going into Tucson. It remains to this day the largest city in the entire world with no surface water supply of any kind, streams, lakes, springs, living entirely on borrowed time. Since our testimony last year we have made substantial progress on several collateral matters. I would say the most important one is the enactment of comprehensive ground water and management code. I believe the most thorough, extensive statutory management scheme that has ever been adapted in the American West, indeed for that matter anywhere, puts Arizona on a target toward balanced ground water management to ultimately bring an end to the overdrafting and give rise to the demand for this project as a supplementary water supply.

WATER RIGHTS AND FLOOD CONTROL ISSUES

I have been personally negotiating over the last year and a half with the Secretary of the Interior over several distribution issues. The most important one is contracts for water delivery to five central Arizona tribes. When Secretary Andrus was in office we got about 90 percent of the negotiating done, but we failed on the last 10 percent. Frankly, we had irrconcilable differences. I am pleased to report with the accession of Secretary Watt we have begun those discussions anew and I am very confident we are going to get these Indian claims resolved quite promptly during the course of the year. Secretary Watt was very, very helpful, aggressive, paid a lot of attention to our needs.

There is a request in this year's appropriation for some flood control items. I suppose it is ironic pleading to Congress that on one hand we are here asking for supplementary water in the desert, and on the other hand saying we need more flood control. That is a fact of life in the arid West as you well know. It does not rain often, but when it does, it all comes at once, often with devastating results, and that has been the case the last 4 years in central Arizona. You will find in our request strong support for the President's recommendation of $12 million for design and engineering studies to examine what kinds of flood control work might and might not be feasible.

We would indeed, Mr. Chairman, ask you to consider restoring a rather small sum, $2 million, to that flood control request. That would enable us to get along with feasibility and cost benefit studies in

Phoenix, Tucson, and eastern Arizona. They are advanced feasibility studies we think are separately important in light of tremendous difficulties we have had in the last 4 years.

MARICOPA-STANFIELD IRRIGATION DISTRICT

Lastly, there is another $2 million item of particular importance, a request from the Maricopa-Stanfield Irrigation and Drainage District for sums to begin the advanced design, engineering, and related studies for distribution systems in central Arizona. To deliver water on schedule in 1986, we must begin work on this distribution system. That is all authorized; it is a draw, if you will, on some hundred million dollars which has been authorized in the Central Arizona Project.

In summary, Mr. Chairman, I believe the project is coming to reality. We are working out the remaining problems on schedule. We are extremely greatful for Federal assistance. I believe this reclamation project is a splendid example of corroborative partnership and reclamation that has built the West, certainly indispensibly to the further growth and development of Arizona and its future.

If you have any questions I would be happy to respond. If not, I thank you very much for the opportunity to be here.

IMPACT OF BUDGET REVISION

Chairman HATFIELD. Thank you very much, Governor.

Let me turn to the Central Arizona Project. As you know, the Reagan budget has reduced this about $5 million. Do you believe that this will have a significant impact on the dates of completion?

Governor BABBITT. Senator Hatfield, I do not think I can honestly come here and quarrel over a $5 million cut when I look at the budgetary imperatives and the cuts that have been sustained in a lot of areas. I do not think that $5 million is a difference between success and failure, and I will tell you very candidly, if you see fit to support the President's recommendation we will be very grateful. I would, on the other hand, not to let you off the hook entirely, urge you to restore $2 million at the back end for the flood control studies.

Chairman HATFIELD. So you feel that you could live with the $5 million reduction?

Governor BABBITT. Absolutely.

Chairman HATFIELD. Thank you very much, Governor. Glad to have you here today.

Governor BABBITT. Thank you.

CORPS OF ENGINEERS DREDGING PROGRAM

STATEMENT OF JOHN DOWNS, PRESIDENT, NATIONAL ASSOCIATION OF DREDGING CONTRACTORS

ACCOMPANIED BY:

J. W. BEAN, PRESIDENT, C.F. BEAN CORP., NEW ORLEANS, LA.
MS. DEXTER, WASHINGTON REPRESENTATIVE

Chairman HATFIELD. Now I would like to invite Mr. John Downs, president of the National Association of Dredging Contractors.

Mr. DOWNS. Thank you, Senator. We will be brief. We have submitted a written statement but I would like to highlight some of the points of it.

My name is Jack Downs, president of the National Association of Dredging Contractors. To my right is J. W. Bean, the president of C. F. Bean Dredging Co. from New Orleans. To my left is Ms. Dexter, our Washington representative.

First, let me say that we, as an association, fully appreciate the need for budgetary restraints. We support the President and what he is doing to turn this country around. We are here in an attempt to make positive proposals to reallocate some of the moneys of the operation and maintenance fund to allow some of the critical dredging in this country to be done and still stay within the budgetary restraint. The shortfall of funding in the maintenance dredging program for this fiscal year 1981 is approximately $70 million. In 1982 it will be approximately $125 million. This means that in fiscal year 1982 the funding recommended will provide for something like 19 million cubic yards less of maintenance dredging than has been done in 1981.

RECOMMENDED CHANGES TO BUDGET PROGRAM

We suggest, in order to provide funds to do this critical dredging, that certain changes be made in the allocation of the budget. We suggest eliminating the funds for the continuing construction of the medium-class hopper dredge of the Corps of Engineers and certain other floating plant items. We think that with this, there can be provided approximately $70 million more in the immediate future to do some of the dredging that is critically required in this country without adverse effects.

Another point that I would like to touch on, that again is in our written testimony, the question has been asked, is there the capability of American business to handle all of the dredging involved in future construction of deep-water ports in this country? My answer is that the industry can, without question, handle the work as it is presently scheduled using the figures from the Corps of Engineers that were given us. The workload, as we see it, will easily fit within the capacity of the U.S. industry to do it, to handle it. Over the past 3 years our study shows that in the past we still have not deviated a great deal from a 50-percent use of our equipment. With the figures that are given to us in the deep-water port capacity, that figure might come up something like

75-percent useless. We still would have equipment available for further involvement.

INDUSTRY HOPPER DREDGE PROGRAM

The third point I would like to make before this committee is in relation to the previous point that I have made. Industry several years ago made more or less of a commitment that they would build certain hopper dredges, certain equipment to fulfill the requirements imposed on them by Public Law 85–269. At that time, in fiscal year 1979, we looked forward to building six new hopper dredges. There are presently seven hopper dredges owned by industry available to do the work of the Corps. Two of them, by the way, are idle, tied up, brand new dredges, they are idle. There is no work to bid on and they are standing idle awaiting the opportunity to bid.

Chairman HATFIELD. Would you give us a list of those seven and their location?

Mr. DOWNS. Yes, sir; I can read it or I can turn it over to you.

Chairman HATFIELD. And distinguish between the makeshift and the real hopper dredges.

Mr. DOWNS. I can read the list, Senator. The ones that I am speaking of now are specifically built for the purpose, they are hopper dredges in every sense of the word, they are new, they are modern, they are licenced to go anywhere in the world and they have competed against the Corps in each instance.

Chairman HATFIELD. You say you built seven hopper dredges?

Mr. DOWNS. There are seven——

Chairman HATFIELD. All brand new construction?

Mr. DOWNS. There is one of the seven that has been revised and rebuilt to the tune of several million dollars, but there are seven dredges available right now. Six of them are brand new, that is within 1979.

Chairman HATFIELD. What class are they?

Mr. DOWNS. Let me look at the list. We have one in the 12,000-cubic-yard range. We have presently launched the dredge *Eagle*, Bean's dredge, 5,500 cubic yards, brand new. That has passed all its tests and sea trials and is looking for work.

Chairman HATFIELD. What class is that?

Mr. DOWNS. Medium. I think in the Corps' new terminology it would be medium class. In the old terms this would be large, 5,500 cubic yards.

There is a 4,000-cubic-yard dredge; there is a 3,600-cubic-yard dredge; the dredge *Long Island*, 12,000 cubic yards; the dredge *Manhattan*, 36,000 cubic yards; the *Sugar Island*, 3,600 cubic yards; the 3,600-cubic-yard *Padre Island* will be available in September of this year. The *Eagle-1*, Bean's dredge 5,500 cubic yards; the *Chevalier*, 1,000 cubic yards; Manson's dredge, 1,500 cubic yards; National dredging is being built at Avondale shipyards, it will be 88 cubic yards; *T.L. James* is a second dredge, 1,000 cubic yards; the *Eagle-2* is planning, we would hope to see it on line the next 2 years.

Chairman HATFIELD. Let us delineate between the ones that are active on line now and those that you are building.

Mr. DOWNS. Of the ones I speak of, Senator, seven are actively on line, have worked in the Corps program or are standing by ready. The *Eagle* is ready, has not had an opportunity to bid. There is no work for her to bid on. But it has completed its Coast Guard trials.

Chairman HATFIELD. So you have seven that could sail tonorrow, and how many——

Mr. DOWNS. There is one that is due September this year. It is 80-percent complete.

Chairman HATFIELD. Is that your eighth one?

Mr. DOWNS. That will be the eighth one of the private industry.

Chairman HATFIELD. How long did it take you to build these seven?

Mr. DOWNS. In answer to the conference report for fiscal year 1979, so I would say starting back in 1978–79. We have planned, financed, designed, built, launched, and used these ships. This is one of the points of our difference with the Corps, Senator, in that we feel within a period of 18 months from a basic start we can design and build a ship.

Chairman HATFIELD. How many do you think should be in the residual fleet?

Mr. DOWNS. That is a question I have never wanted to answer publicly, because as we build these things, Senator, we have available to fill the need in this country for ships in that relation. There are presently three under construction——

Chairman HATFIELD. Not in all emergencies, Mr. Downs, not in all emergencies. You have contracts to negotiate with labor. If you have a strike you could not man your ship. So how many in the residual fleet for emergencies do you think we should have?

Mr. DOWNS. If I had to go on the line today I would say three.

Chairman HATFIELD. What class?

Mr. DOWNS. A large, a medium, and a small.

Chairman HATFIELD. Three ships in a residual fleet. Before this last commitment that you made to build this private fleet, how long had it been since private industry had any operation in the hopper dredge line? When did you last operate a hopper dredge fleet of any kind prior to this 1978–79 period?

Mr. DOWNS. We have never operated—for years we have not operated a hopper dredge, Senator.

Chairman HATFIELD. Many years?

Mr. DOWNS. Many, many years. The difficulties we have had in responding to emergencies, Senator, has not been with labor, has not been with contracts, it has been with the own internal workings of the Corps of Engineers. At the time of Hurricane Allen in the gulf, we had a dredge ready, immediately available.

Chairman HATFIELD. Are your ships union?

Mr. DOWNS. Some are, some are not.

Chairman HATFIELD. How many are union?

Mr. DOWNS. Of the seven, four of them are definitely. I am not sure of a couple of them.

Chairman HATFIELD. Half of them maybe?

Mr. DOWNS. Half are union.

Chairman HATFIELD. Subject to contract negotiation—I assume if it is union you have a contract.

Mr. DOWNS. Certainly.

Chairman HATFIELD. Other maritime unions have tied up docks for quite some periods of time.

Mr. DOWNS. This can happen.

Chairman HATFIELD. It could happen.

Mr. DOWNS. It can happen. It has not happened to us in an emergency.

Chairman HATFIELD. You have not operated that long.

Mr. DOWNS. We operated with the same union through the wars.

Chairman HATFIELD. That was pipeline dredges?

Mr. DOWNS. Pipelines, clam shells, other types of unions, worked with the same unions.

Chairman HATFIELD. You have never had labor unrest?

Mr. DOWNS. Certainly, we have had labor trouble.

Chairman HATFIELD. OK, sorry to interrupt you. Go ahead.

INDUSTRY CAPABILITY PROGRAM

Mr. DOWNS. The other point I wanted to make, Senator, the third point I want to make is that of the 30 million cubic yards directed by the conference report to the Corps to be given to industry to encourage them to build and to move into this field, in this present year the Corps tells us, because of the shortage of funds, that 30 million is not forthcoming. The Corps had said there would be 24 million. Actually, there are 20 million yards made available to the private industry to bid on this year at this time. Thus, we have several of the brand new dredges tied to the dock and looking for a place to work, even though the Corps still maintains set-aside work for their own dredges. All the dredges they presently own are fully occupied, fully financed. In spite of this, we bid against them. When we have bid, we have been eminently successful. In the great majority of cases where we have bid, we will be well within their estimates and be awarded the work and completed it successfully.

Chairman HATFIELD. How many small-class dredges did you say you have?

Mr. DOWNS. I think it is two. A 1,000 cubic yard, one 1,500 cubic yard, and another 1,000-cubic-yard vessel coming on line.

Chairman HATFIELD. Where have they operated?

Mr. DOWNS. One was built in the Mississippi River, belonged to T. L. James, moved over to the east coast. It was defined by contract and they did it, finished the job; it was less than 400,000 yards.

Chairman HATFIELD. You do not have any on the west coast?

Mr. DOWNS. Yes; Manson's out there up in the Pacific Northwest.

Chairman HATFIELD. OK. Does that conclude your statement?

Mr. DOWNS. I believe so, Senator. I would say industry has been committed to this program. We are still building and are continuing to build, and we have committed to this and, in spite of what has happened today, we think this is the thing of the future and we are continuing to build.

Chairman HATFIELD. All right, thank you very much. Do either of your colleagues wish to make any comments?

Mr. BEAN. No, thank you.

Chairman HATFIELD. Thank you very much.

[The statement follows:]

STATEMENT OF JOHN A. DOWNS, PRESIDENT, NATIONAL ASSOCIATION OF DREDGING CONTRACTORS

Mr. Chairman, my name is J.A. Downs. I am President of The National Association of Dredging Contractors. I am also Chairman of the Board of Great Lakes International, Inc., Oak Brook, Illinois. With me this afternoon is Mr. J.W. Bean, President of C.F. Bean Corporation, New Orleans, Louisiana; Mr. F.R. Hazard, Executive Vice President, Great Lakes International, Inc., Oak Brook, Illinois; and Ms. K.T. Dexter, Washington Representative, The National Association of Dredging Contractors, Washington, D.C.

I would like to say at the outset that we fully appreciate the need for budget restraints and we support what the President is doing to turn this country around. We are here to make positive proposals for staying within the budget request for the Corps of Engineers "Operation & Maintenance" fund and at the same time provide $70 million more needed for critical maintenance dredging at key ports and harbors in the United States. We believe this can be accomplished by eliminating or deferring certain items listed in the revolving fund request and allocating these funds to priority maintenance projects.

There has been serious funding shortfall in recent years in the Corps' maintenance dredging funding requirements. The funding shortfall for maintenance dredging for FY 1981 will be over $70 million. In FY 1982 the funding shortfall will increase to $125 million. This means that the ports and harbors of the United States are not being properly maintained.

The $125 million funding shortfall for maintenance dredging in FY 1982 will, for example, adversely affect the Ports of Baltimore ($2,381,000), Norfolk ($4,632,000), Mobile, Ala., ($2,000,000), New Orleans ($9,000,000), New York ($7,600,000), and Philadelphia ($10,860,000). The dollars quoted represents the unfunded maintenance dredging requirements for FY 1982, which total 20 million cubic yards for these six (6) ports alone.

The budget request for FY 1982 provides only $351 million for maintenance dredging work. Although the FY 1982 request is 6% higher than the funds appropriated in FY 1981, 19 million cubic yards less maintenance dredging will be done.

The funding limitations have had an adverse effect on both the Corps and industry. The Corps recently informed industry that the existing funding shortfall keeps the Corps from advertising 30 million cubic yards of hopper dredge work under the Industry Capability Program in FY 1981. You will recall that the Conference Report for FY 1979 directed the Chief of Engineers to make available not less than 30 million cubic yards of hopper dredging work per year for industry to bid for the following 3 fiscal years, subject to industry capability. The net result of the Corps' recent analysis is that only 20 million cubic yards of hopper dredge work will be available to industry to bid on in FY 1981.

Industry currently has seven (7) hopper dredges in operation -- including 1 large class, 4 medium class, and 2 small class. Industry's eighth hopper dredge, which is a medium class, will be on line in September 1981. Industry will also have three (3) more hopper dredges available in 1982. Industry has fulfilled its commitment to Congress to build hopper dredges and other new dredging plant, but we are deeply troubled and concerned about the lack of dredging work available for industry to bid.

The existing seven (7) industry hopper dredges have a workload capacity to remove over 40 million cubic yards of material annually. Yet in FY 1981 and FY 1982 there will only be 20 million cubic yards made available by the Corps for industry to bid. This means that industry's hopper dredges will be idle and tied-up to the docks for long periods of time. Currently, C.F. Bean Corporation of New Orleans has been unable to find work on the East Coast, the Gulf, or the West Coast for its new 5,500 CY hopper dredge. T.L. James has tied-up its new small hopper dredge for the lack of work.

At the same time, the Corps continues to fully fund and utilize its hopper dredges, contrary to the intent of Public Law 95-269. The law requires that this work be put out for competitive bidding by industry where industry has the capability to perform the work. The Corps has been slow in retiring its old hopper dredges even though the 5-year Industry Capability Program has demonstrated that in most cases industry can do the work more economically. The hopper dredging requirements in FY 1981, according to the Corps figures, total about 64 million cubic yards. Only 20 million cubic yards are being made available to industry to bid on and 44 million cubic yards or more are being set aside for government plant.

The construction of deep-draft ports in the United States to a minimum project depth of 55 feet to handle exportation of coal and other bulk commodities is still several years away. Galveston is the only Port which has the present capability to start construction any time soon. It is conceivable that Galveston could start construction this year with private capital if authorizing legislation providing for reimbursement is enacted in this session of Congress.

The American Dredging industry has the full capability to handle all of the dredging involved in planned future construction of deep-draft ports in the United States. By 1982, industry hopper dredges alone will have the capacity to remove over 75 million cubic yards of material annually. Corps' studies also show that industry has more than a sufficient number of hydraulic dredges and hopper dredges to perform this work. The Corps estimates that 60% of the deep-draft port work will be done by hydraulic dredges and 40% by hopper dredges.

Furthermore, if additional equipment is required to meet unprojected future requirements, the American dredging industry will build the necessary dredges. Industry can respond quickly as the needs arise. We can build new hopper dredges and hydraulic dredges in 18 months or less. Industry does not require 2 or 3 years or longer for design and construction of its equipment. Industry can also construct equipment for 50% less than the Corps.

In view of tight budget restraints and the serious need to increase the FY 1982 budget request for critical maintenance dredging, the construction of the medium class hopper dredge and other floating plant items should be deferred at this time. This action would enable the Committee to reallocate the funds to provide $70 million more for high priority maintenance dredging projects. The justification for such deferrals is as follows: The medium class hopper dredge was estimated to cost $74,450,000. Initiation of construction was scheduled to begin in FY 1980. As of this time, little if any construction has begun on the dredge. Sun Shipbuilding Co. recently announced that they were withdrawing from the ship building business and that they were subcontracting construction of this dredge to Bath Iron Works. We understand that most of the machinery for the dredge has been ordered. This equipment could easily be placed in storage. Normally the cost of the machinery is about 25% to 35% of the cost of construction. Deferral of the construction of this dredge would provide nearly $40 million for critical maintenance dredging projects.

The deferral of construction of the "other floating plant" would provide over $30 million for reallocation to priority maintenance projects. We would strongly urge the Committee to delete Item (1) Tug No. 2-105' Replacement for the Tugs TWO RIVERS and LUDINGTON (new) at a total estimated cost of $4,100,000 and Item (5) DERRICKBARGE WARREN (continuing) at an estimated total cost of $7,000,000. There is no need for the Corps to acquire this equipment. Industry has the necessary plant and equipment on the Great Lakes to perform this work. We have been trying for years to get the Corps to put this work out for competitive bids.

The serious funding shortfall for maintenance dredging in FY 1982 is a compelling reason for earmarking dredging funds under the O & M appropriation. The continuous diversion of maintenance dredging funds for other uses has created chaos in the management and efficient performance of the program. We strongly urge the Committee to reject last year's language in the Senate Report and earmark a total dollar figure mandated to be spent on maintenance dredging in the O & M appropriation.

* * *

This concludes my testimony. Thank you, Mr. Chairman.

ADDITIONAL PREPARED STATEMENTS

Chairman HATFIELD. Before I go vote, I want to include in the record several statements—one of the Water Resources Congress, National Rural Electric Cooperative. You will have to excuse me while I go vote.

[A brief recess was taken.]

[The statement follows:]

STATEMENT OF ANNE MARIE GIBBONS, LEGISLATIVE REPRESENTATIVE, AMERICAN PUBLIC POWER ASSOCIATION

My name is Anne Marie Gibbons. I am Legislative Representative of the American Public Power Association. The American Public Power Association is a national organization representing more than 1,400 publicly owned electric utilities in 48 States, Puerto Rico, the Virgin Islands, Guam, and American Samoa. About 14% of all U.S. consumers obtain their electricity from local publicly-owned electric systems. I am pleased to submit the Association's views on various aspects of the energy budget to the Energy and Water Development Subcommittee of the Senate Appropriations Committee concerning Fiscal Year 1982 budget requests.

APPA is especially interested in budget requests for hydropower development. Congress has granted public power systems a preference in buying Federal power from Federal dams, and in obtaining licenses and permits from FERC for hydropower development. Money budgeted for Federal hydro projects will be returned to the Treasury through the sale of electricity, together with interest. About one fifth of the money budgeted for the Federal Energy Regulatory Commission will be returned to the Treasury through license and filing fees. We believe future receipts are relevant and should be considered when evaluating funds budgeted for these activities.

Since it is essential that the nation continue to emphasize the use of renewable resources we ask this Subcommittee to examine carefully the reduction in budget for the hydroelectric regulation at FERC, and the elimination of small scale hydro loans at the Department of Energy.

This statement concerns the following FY 1982 budget requests:

Federal Energy Regulatory Commission - $82 million.

Army Corps of Engineers - $3.1 billion.

Federal Power Marketing Administrations - $243.6 million.

Water and Power Resources Service - Portions of the budget relating to power.

Department of Energy Small Scale Hydro Feasibility Loans - $10 million.

FEDERAL ENERGY REGULATORY COMMISSION

The Federal Energy Regulatory Commission request for FY 1982 is $82 million, which is a $5 million increase over FY 1981 appropriations, but almost $4 million less that the Carter Administration's FY 1982 request. It is important to note that in FY 1982, almost one fifth of the Commission's budget request, $14.7 million, will be returned to the U.S. Treasury. These funds will be collected from license and filing fees. APPA is particularly interested in the amount requested for electric power regulation, which is $18 million, and the amount requested for hydro regulation, which is $13 million.

Electric Power Regulation - With respect to electric power regulation, a majority of public power systems buy wholesale power from private power companies which they distribute to their retail customers. Almost 700 public power systems buy all their power requirements from investor owned utilities. An additional 225 buy part of their power from investor owned utilities. The rates charged by the private power companies for this wholesale power are regulated by FERC. As of Feb. 1, 1981, wholesale rate cases pending before the Commission number 199. Obviously, the length of time that it takes FERC to determine whether a rate charged by a wholesale supplier is just and reasonable affects the economic health of many public power systems.

In addition to wholesale rate regulation, the Commission's responsibilities in the electric power area were increased under the Public Utility Regulatory Policies Act of 1978 to include gathering cost of service data; ordering physical interconnecting between transmission systems to provide for the sale or exchange of electric power, if in the public interest, and ordering electric utilities to provide transmission service to permit noncontiguous utilities to buy or exchange power; studying power pooling; reviewing automatic fuel adjustment clauses; issuing rules on small power producers and cogenerators; gathering information on interlocking directorates.

APPA recommends a funding level which will allow FERC to carry out its wholesale rate regulation and PURPA responsibilities in an effective manner.

Hydro Power Regulation - The Commission has requested $12.8 million for hydro regulation which includes issuing permits and licenses for hydroelectric projects, enforcing terms and conditions of the licenses, and inspecting dams under its jurisdiction for safety purposes. The request is $794,000 less than the amount appropriated last year, and almost $5 million less than the amount requested in the Carter budget for FY 1982.

A significant number of public power systems are interested in hydroelectric development and have obtained preliminary permits and licenses from FERC. The renewed interest in development of hydro sites has resulted in increased applications for preliminary permits and licenses and an increased number of competing applications for the same sites.

The workload at FERC reflects the renewed interest in hydro. More than six times the number of preliminary permits filed in FY 1979 were filed in FY 1980, and the increase continued in FY 1981. In FY 1980, 501 preliminary permit applications were filed, and in FY 1981, 1,200 applications are expected to be filed. As of March of this year there were 760 preliminary permit cases pending.

It is anticipated that about 50% of the preliminary permits will result in applications for a license to a hydro facility, and consequently the preliminary permits issued in FY 1980 will result in a significant increase in hydro license applications. The growth of hydro licensing activity is seen in the following data: the Commission received 13 license applications in FY 1978, 25 in FY 1979, and 63 in FY 1980. About 120 applications are expected in FY 1981 and about 170 in FY 1982.

APPA has been unable to learn the impact of the close to $1 million reduction from funds budgeted for FY 1981 for hydro regulation, or the purposes for which the original request for an additional $5 million would be used. However, in light of the increasing workload in the hydro section, it is important that there be a justification for such reductions. FERC's rationale as expressed in its budget request is that the Administration will seek to have legislation enacted to exempt hydroelectric projects generating less than 15 megawatts from licensing regulation and to phase out the Commission's activities in the area of hydropower resources analysis. This explanation should be examined since the passage of this legislation is not guaranteed and increasing the exemption to 15 mw projects may not reduce the workload as anticipated.

Currently, FERC has authority under Section 408 of the Energy Security Act of 1980 to exempt small hydroelectric projects under 5 mw at existing dams from Federal Power Act licensing requirements. However, there are potential problems for hydro developers in taking advantage of the license exemption which could result in the exemption process not being used. By being exempt from the license process, a developer also loses the protection and priority rights which a license affords. The developer is subjected to conditions and objections of Federal and State environmental agencies - which under the licensing process had to defer to FERC. The current exemption applies to developers with a property interest in the site. Consequently, there is a possibility of misrepresentation as to the applicant's property right which could necessitate more staff to verify statements made in exemption applications.

The Administration has not requested appropriations for the Hydropower Resources Analysis section, proposes its termination, and suggests that legislation will relieve FERC's responsibilities. In FY 1981, $2.2 million was appropriated for Hydropower Resources Analysis. Almost all the money appropriated for hydropower resources analysis is reimbursable from fees collected. Its duties include reviewing and determining the amount an owner of a downstream dam should pay the government for benefits provided by a Federal headwater improvement. In 1980, $3 million was collected for these headwater benefits. The average amount collected over the years is $4 million a year. Another of its functions is to review and approve rates charged by all Federal power marketing administration - which amounts to about 40% of all hydropower rates. There are currently 8 power marketing rates pending that would increase rates by $343.2 million a year. The section also appraises hydroelectric projects which are to be licensed to determine , as required under Section 10(a) of the FPA, whether the project will be best adapted to a comprehensive plan for "the improvement and utilization of water power development and for other beneficial public uses..." The section also inventories hydropower resources throughout the country. The responsibilities of this section are comprehensive, essential aids in the licensing process, and in hydro development in general. These functions, authorized by the Federal Power Act, should not be eliminated from FERC until another apparatus is in place to handle these responsibilities. APPA recommends that money be restored to the FY 1982 budget for Hydropower Resources Analysis.

APPA believes that it is important that FERC be able to keep up with the increased number of hydro permits and licensing applications so that our hydro resources are developed in a timely manner. We recommend that the subcommittee closely examine the budget request to determine if the reduction will allow the Commission to operate effectively in the hydro area and we suggest in view of the increased workload that it would be prudent to appropriate the additional $5 million requested in the original budget.

CORPS OF ENGINEERS

The Corps has not requested funds for construction of new power projects in FY 1982. Their amended FY 1982 budget request is $3.1 billion. There has been about a 7%

decrease in the Corps 1982 revised budget, but these reductions, according to the Corps, do not affect the completion dates of hydro power projects. APPA supports the Corps budget request for general investigations, continuing construction, and operation and maintenance of hydropower projects. APPA feels that funds for power projects are one of the country's most worthwhile and cost-effective investments, since these projects will help reduce our dependence on foreign oil and money budgeted for power will be returned to the Treasury through the sale of electricity.

Specific Corps Projects Supported By APPA

Libby Additional Units, Montana - The Corps has requested $14.6 million in the FY 1982 budget for work on four additional units at the main Libby Dam, located on the Kootenai River in Montana. The project would provide 420 mw of capacity, would save the equivalent of 3 million barrels of oil a year, and would supply needed peaking power for the northwest. The Corps did not request money for the reregulating dam downstream from the main dam, pending reauthorization by Congress. Startup of all four generating units is expected by May 1984.

Harry S. Truman Dam and Reservoir, Missouri - The Corps has requested $14.5 million for construction, and $2.8 million for operation and maintenance for the Harry S. Truman Dam and Reservoir located on the Osage River in Missouri. This is a 160 mw project which is 85 percent completed. About $2.7 million of the 1982 budget requests would be used to begin construction on structural measures to lessen the stream impacts of the hydropower project.

Richard B. Russell Dam, Georgia - The Corps has requested $81.4 million for FY 1982 for this 300 mw installation located on the Savannah River, which will help meet the increased power requirements of the Southeast. An additional $325,000 is requested for operation and maintenance. Areas to be served by the project include all of South Carolina, North Carolina, Georgia, Alabama, and parts of Mississippi and Florida. The first power on line is expected in 1984. The total estimated cost of the project is $348 million. The dam is 64% completed.

Chief Joseph Additional Units, Washington - The Corps has requested $10.3 million for FY 1982 for work on 11 units with a capacity of 968 mw at the dam located on the Columbia River 51 miles downstream from the Grand Coulee Dam. The entire project is scheduled to be completed in September, 1983. These additions provide essential power needed by the Federal systems to serve the electric requirements of the region.

New Melones Lake, California - The Corps has requested $12.7 million for FY 1982 for advancing construction of this 300 mw capacity plant. The project, located on the Stanislaus River, will provide needed power to the San Joaquin Valley. The project is scheduled for completion September, 1984. Power has been on line since April, 1979.

Bonneville Second Powerhouse, Oregon and Washington - The Corps has requested $51.3 million for FY 1982 for continued construction of the 558.2 mw capacity 8-unit second powerhouse located on the Columbia River. Power on line is scheduled for May 1981. The entire project is scheduled to be completed in July 1982. The project is now 83% completed.

McNary Lock and Dam Second Powerhouse, Oregon and Washington - The Corps has requested $1.7 million for surveys for a proposed six unit, 742 mw capacity second powerhouse. FY 1982 funds would be used to continue the planning and engineering studies to refine the recommended plan of improvement and project cost estimates. The turbine selection and design will be initiated, the size of the fish propagation facilities will be determined and preliminary design work will be started.

Dickey-Lincoln School Lakes, Maine - The Corps has not requested funds for the Dickey-Lincoln project. Last year, $795,000 was appropriated for completion of advanced engineering and design studies of the proposed project in northern Maine which would provide 830 mw of capacity and 17% of New England's peaking requirements in the late 1980's. The study will be completed this year. If the study is favorable, APPA urges Congress to appropriate funds for construction of the project. Approximately 98% of the $810 million project would be recovered by the government through the sale of power. The Corps has estimated that the value of the power from the project is increasing, as a result of oil price hikes at a rate four times faster than the cost of constructing the project.

FEDERAL POWER MARKETING ADMINISTRATIONS

APPA supports the FY 1982 budget requests of $243.6 million for the four power marketing administrations - up $68.5 million from last year's appropriations. The budget includes $3.5 million for the Alaska Power Administration; $7.2 million for the Southeastern Power Administration; $21.2 million for the Southwestern Power Administration; and $211.2 million for the Western Area Administration. The fifth power marketing administration, Bonneville, requires no appropriations since it operates on a self-financing revolving fund basis.

All five of the Federal power marketing administrations sell electricity generated by Federal hydropower projects to publicly-owned systems. Municipalities are given preference in the sale of this power. This fiscal year, all five administrations will market about 225 billion kilowatt-hours, and revenues are expected to be $1,553 million.

It is interesting to note that the revised budget has not reduced the original FY 1982 Carter budget request for the power marketing administration. One of the probable reasons for this is that part of the revenues derived from selling power and transmission services flow back to the Treasury with interest and part are used to offset annual operation and maintenance costs. Since their inception, the power marketing administrations have proven a valuable resource collecting a total of $10 billion in revenues. These revenues are from electric ratepayers not taxpayers.

The Federal power marketing administrations play an extremely important role in the area of energy delivery. Their requests are reasonable and should be appropriated for FY 1982.

DEPARTMENT OF INTERIOR'S WATER AND POWER RESOURCES SERVICES

The Water and Power Resources Services constructs and operates facilities to irrigate land and furnish water supplies in 17 western states. Some of these projects produce power which is marketed by the Federal power marketing administrations. APPA supports portions of the budget relating to power including $54.9 million of the operation and maintenance budget which would be allocated to power, and $1.7 million of the investigations budget which would be allocated for studies examining the potential of increasing hydropower at existing facilities.

SMALL HYDRO PROGRAMS

The Department of Energy has not requested funding for the hydro demonstration and feasibility study loan programs for FY 1982. The Administration plans to terminate the programs during FY 1981 and has requested a $20 million reduction for the feasibility loan program and a $5 million reduction for demonstration. The Energy Security Act authorized these programs through FY 1982. APPA feels these programs have aided in renewing interest in small scale hydro. They are important because many small scale projects border on the economic margin. Federal feasibility funds increase the likelihood that these projects will be economically feasible today rather than sometime in the future. They should be funded through FY 1982, at which time Congress can make a determination during the authorization process as to whether the programs should continue.

Statement of Morgan D. Dubrow, Senior Staff Engineer, National Rural Electric Cooperative Association

Mr. Chairman, my name is Morgan D. Dubrow. I am Senior Staff Engineer of the National Rural Electric Cooperative Association (NRECA). NRECA is the national trade association of about 1000 rural cooperatives which supply central station electricity to some 25 million people in the rural areas of 46 states. NRECA supports the overall budget for the Corps of Engineers and the Water and Power Resources Service (WPRS), formerly the Bureau of Reclamation, which will provide funds in FY 1982 for irrigation, flood control, navigation, hydroelectric power and other water uses. Our members are pleased that the Administration has submitted its budget request to continue the construction of hydroelectric facilities and other needed water resource development which will strengthen our economy, utilize a renewable resource, and reduce oil imports. Our cooperatives are helping the nation to conserve electric power by weatherization programs, load management, strengthening interconnections and pooling between power systems. The Department of Energy power marketing agencies and the utility industry need continued support in order to help meet our nation's electricity requirements. Achieving this objective we believe will require Congressional action to modify regulatory procedures and change or modify certain environmental laws. In my testimony last year I indicated that regulatory requirements and environmental constraints have reduced capital availability and caused the delay, deferment or cancelation of at least 120,000 MW of new power supply. Be it nuclear, coal or hydro, it could displace the oil equivalent of about 4.0 million barrels per day, which is roughly half our oil imports. This problem must be remedied before America can have energy independence. The utility industry needs Congress' support in going forward with the construction of new coal, nuclear and hydroelectric power facilities. Every 1000 MW power plant that can be brought on line could save importing some 10 million barrels of oil per year.

Our members commend the Congress for its support of water resource development and power supply. NRECA supports the Department of Energy's programs of research, conservation and supply of energy. We are pleased that the Administration budget submittals for nuclear programs are increased over last year. We urge the Committee to support the funding for nuclear programs such as safety, breeder reactors, expansion of enrichment plants, away from reactor spent fuel storage, reprocessing and storage of nuclear wastes, and completing the nuclear fuel cycle, high temperature and fast gas reactors, and especially the Clinch River Breeder Reactor Demonstration Plant. NRECA emphasizes the need for:

- New funding of $6.8 million for hydro additions at existing WPRS projects.
- Appropriation of $81.4 million for Richard B. Russell Dam.
- Appropriation of $14.6 million for Libby.
- Appropriation of $4 million for the Garrison Irrigation Project.
- Appropriation of $21.2 million for the Fryingpan-Arkansas Project.
- Appropriation of $4.3 million for the Auburn-Folsom South Project.
- Appropriation of $194.5 million for the Central Arizona Project.
- Completion of Environmental Impact Study for Dickey-Lincoln School.
- Appropriation of $70.7 million for the Bonneville Unit in Utah.
- Appropriation for nuclear energy of $737 million for breeders including $254 million for the Clinch River Breeder Reactor Demonstration Plant.
- Appropriation of an additional $40 million for the High Temperature Gas Reactor and $5 million for the HTGR Recycle Program.

Last year, consumer demand for electricity in the agricultural areas of the nation again increased by some 5 percent, about twice that of the total electric industry. Many of our member systems experienced reduced growth in kilowatt-hour use in 1980, in large part due to conservation, the increased costs of electricity and a decline in business activity. However, there will be more demand for electricity to meet normal load growth and as a substitute energy source for oil and gas. Our members know that ample electric power resources are essential to defend the country, feed our people, produce food crops for export, and provide jobs and maintain our standard of living.

Restoration of Funding for Water Resource Projects

At our 39th Annual Meeting in San Francisco, January 29, 1981, our members again unanimously passed resolutions opposing the reduction and elimination of appropriations for a number of water resource and hydroelectric projects throughout the United States. We encourage the Congress to fund such worthwhile projects.

Planning for Water Resource Development

NRECA understands that funds have been denied the WPRS to continue the much needed orderly planning for new water resource development to meet the demands of an expanding population in many of the western states. Planning and future construction of such projects are consistent with the announced policy of the Secretary of the Interior for the Government "to meet the real needs of the people". The Administration has reduced planning funds by $1 million and eliminated funds for the HIFLEX Weather Modification Program. Large segments of the Great Plains region are experiencing severe drought and restoration of the $1 million for planning and $4 million for weather modification can be justified. All the basic weather data are available and this $4 million is sorely needed to complete the analysis of the data and to prepare the findings, conclusions and recommendations for the HIFLEX weather study, thereby making this valuable information available to the affected states and to WPRS.

New Construction Starts
for Water and Power Resource Service Projects

NRECA supports a $6.8 million supplemental appropriation which would provide funds for advance planning and construction for hydroelectric additions to existing power plants at WPRS dams. Among these are the Buffalo Bill Dam Power Plant in Wyoming, Whiskeytown Power Plant in California, Yellowtail Afterbay Power Plant in Montana, Stony Gorge Power Plant in Colorado, and Prosser Power Plant in California. This $6.8 million supplemental request would provide funds needed to complete advance planning for the projects so that construction could be underway.

Accelerate Construction for Corps of Engineers' Projects

We understand that the President's FY 1982 budget does not delay scheduled on line dates for hydroelectric power at Corps' projects. NRECA urges the Committee to support appropriations for these projects such as McNary's 2nd powerhouse in Oregon.

NRECA also urges the Committee to appropriate funds to complete the planning and engineering for the Ben Franklin Project on the Columbia River in Washington and to complete planning and begin construction of the Bradley Lakes Project in Alaska.

Gregory County Pumped Storage

The Corps of Engineers is completing a study on the 1180-MW Gregory Pumped Storage Plant as an off channel facility which could be integrated with the hydroelectric units at the main stem power plants on the Upper Missouri River. NRECA suggests the Committee support the Corps' efforts to complete this study so that this valuable project can be authorized and constructed as early as practicable. This project has no significant adverse environmental effects, enjoys strong local support, has a benefit-cost ratio of about 2 to 1; it would increase the Missouri River main stem hydro capacity by 58 percent and offers oil savings of 2.4 million barrels per year.

Dickey-Lincoln School Project

NRECA suggests that the Committee urge the Corps of Engineers to complete the Environmental Impact Statement (EIS) for the Dickey-Lincoln School Project; this is essential prior to construction. The construction of this multipurpose project will provide 1140 MW of needed peaking power and reasonably priced energy for New England as well as firm power for our cooperatives in the State of Maine. Completion of this project will provide New England with a large water storage project to help abate future droughts. It also will provide much needed regulated fresh water supply for the New Brunswick region, thus improving stream and river regulation and providing groundwater recharge in the United States and in Canada.

Richard B. Russell Dam

Funds in the amount of $81.4 million should be appropriated in FY 1982 for continued construction of the Richard B. Russell Dam Project on the Savannah River between Georgia and South Carolina. It will provide 300 MW of needed base load hydroelectric power and as built can be expanded to add three 100 MW pumpback units, thereby increasing the power plant capacity to 600 MW. We support this appropriation for the installation of the 300 MW of base load and 300 MW of pumpback peaking power.

Garrison Irrigation Project

It is our understanding that 1982 funds were denied to continue construction of the Garrison Irrigation Project. We urge the Committee to provide $4 million needed by the Water and Power Resource Services to continue work on the Oakes Pumping Plant and Oakes Drains of this valuable irrigation development which can be done consistent with our commitments to Canada.

Fryingpan-Arkansas Project

We support the appropriation of $21.2 million in FY 1982 to WPRS for continuing work on the Fryingpan-Arkansas Project including Mt. Elbert pumped storage power plant facilities.

Auburn-Folsom South Unit (CVP)

We support the appropriation of $4.3 million in FY 1982 for the Auburn-Folsom South Unit. We need Auburn Dam which has a potential of 700 MW of hydroelectric power (300 MW hydroelectric and 400 MW pumpback). We urge the Committee to request a timely completion of studies so that a recommendation can be made to the Congress to go forward with this important project.

Central Arizona Project

We urge the Committee to appropriate $194.5 million required in FY 1982 to continue the orderly construction of the Central Arizona Project which is vital to the water supply for the State of Arizona. This would provide for the delivery of water to Phoenix and Tucson as scheduled.

Bonneville Unit, Central Utah Project

We request that the Committee appropriate $70.7 million in FY 1982 for construction of the Bonneville Unit of the Central Utah Project which has a potential of 144 MW of hydroelectric power.

Alaska, Columbia Basin and Other Pacific Northwest Projects

NRECA supports additional funding required to study multipurpose projects in Alaska and the Pacific Northwest and for expediting construction of hydroelectric projects. We support the $27.3 million for the Third Powerhouse at Grand Coulee and $17.5 million for irrigation on the Columbia River Basin Project. We also support the addition of generating units at Chief Joseph, Bonneville and Federal dams in the Pacific Northwest. The region faces serious and growing power shortages for the next 10 years under critical water conditions even with the completion of all scheduled Federal hydro additions in the region.

Federal Power Marketing Agencies (DOE)

NRECA supports the $244 million FY 1982 appropriation request for Federal power marketing agencies: $211.3 million for the Western Area Power Administration (WAPA), $7.2 million for the Southeastern Power Administration, $21.6 million for the Southwestern Power Administration, and $3.5 million for the Alaska Power Administration. We also support the Bonneville Power Administration (BPA) budget funded through its self-financing revolving fund procedures. We suggest that similar revolving funds for the other marketing agencies would be desirable and support proper legislation to achieve this end.

NRECA commends the five power marketing agencies for a job well done. We note that all funds, both appropriated and from BPA's revolving fund, are fully reimbursable to the Treasury and that these agencies have actively pursued a policy to establish rates at a level that covers costs and meets repayment schedules.

NRECA again urges that the Western Area Power Administration have adequate funds and manpower to take care of proper housing, administrative management, legal support and other necessary services.

Support for Nuclear Programs

NRECA supports the FY 1982 budget request of $1,247 million for the nuclear program. We are pleased that this request represents an increase over last year because these funds are vitally needed if we are to help meet our power needs by building more nuclear power plants. We urge the Committee to provide all the funds requested and especially wish to support the following programs:

- $737 million for breeder reactor systems including $254 million for the Clinch River Breeder Reactor
- $678 million for the centrifuge nuclear regional facility, Portsmouth, Ohio
- $299 million for the nuclear waste program
- $38 million for the advanced nuclear systems
- $70 million for conventional reactor systems
- $7 million for interim fuel management program
- $86 million for advance isotope systems
- $10 million for uranium resource assessment

We also support restoration of the High Temperature Gas-Cooled Reactor (HTGR) program at the Department of Energy recommended level of $40 million and $5 million for the HTGR Recycle Program. This advanced reactor system is supported by many public and private utilities and rural electric cooperatives through an organization known as Gas-Cooled Reactor Associates. Several utilities have expressed interest in owning and operating the Lead Plant HTGR, an 800 MW electric co-generation system which will be completed by 1994.

We urge the Committee to confer with DOE to establish the level of funding which should be provided for the construction of an away from reactor (AFR) storage facility for spent fuel and to continue the Barnwell reprocessing plant.

NRECA also supports the budget for the Nuclear Regulatory Commission (NRC). In doing so, we urge that the Committee and the Congress encourage the NRC to resume licensing of plants each of which when on the line saves the equivalent of 30,000 barrels of oil per day.

We appreciate this opportunity to express our views.

STATEMENT OF THE EDISON ELECTRIC INSTITUTE

This statement is submitted on behalf of the Edison Electric Institute to present views of the electric utility industry on the DOE FY'82 Nuclear Budget. The Institute is the association of investor-owned electric utilities and its members provide about 78 percent of the nation's electricity.

The FY'82 budget for DOE nuclear programs must provide funds for the essential aspects that will assure the effective development, demonstration, and use of this vital domestic energy resource.

A primary goal for the nation's energy future should be the early replacement of our demand on the depleting world reserve of petroleum, wherever practical, with the use of our abundant domestic solid fuels--coal and uranium. The best and earliest means of increasing the use of domestic solid fuels is through the increased use of electricity generated by coal and nuclear power plants.

While conservation through greater efficiency in the use of energy must be encouraged and the search for economic alternative fuels be pursued with vigor, we must proceed to improve the use of those technologies that are available and develop those on which we have a high confidence of achieving success. Within the planning horizon of the utility industry, this means the increased use of coal and nuclear fission. Since they have the highest payoff, the Federal Government must support them with appropriate research and development activities. Nuclear fission must be used to achieve the desired high degree of overall reliability for the electricity supply system as we build new plants to serve the growing economy, displace the use of petroleum and replace obsolete facilities.

The reliance on nuclear power has provided major benefits to the customers of electric utilities in terms of lower cost of generation, diversity of fuel resources, and decreased reliance on imported foreign oil. When the nuclear power plants currently under construction or on order are completed, these plants, together with the plants in operation, can provide the energy equivalent of more than 4.5 million barrels of oil per day. To achieve these benefits at an early date, however, it will be necessary to reaffirm a national policy that is fully supportive of nuclear power, regain the research and development momentum that was lost during the prior Administration, and remove the regulatory uncertainties and delays now being experienced. The programs and their funding levels in the DOE nuclear budget must reflect the important role that nuclear power is to play in our energy future. This is the time to clearly focus the nuclear fission programs to achieve the needed support. There must be a strong commitment to this if today's energy picture is to be improved.

I will now address those programs we believe should receive substantial support in the DOE FY 1981 nuclear budget. They include:

- Regionally-sited away-from-reactor (AFR) spent fuel storage facilities
- Spent fuel reprocessing
- Commercial nuclear waste management
- Breeder reactors
- Gas-cooled reactors
- Uranium enrichment

Away-From-Reactor (AFR) Spent Fuel Storage

Congress should provide the authority for DOE to acquire or construct regionally-sited AFR spent fuel storage facilities and establish a funding arrangement such that DOE can provide spent fuel storage. The most recent DOE studies on the need for AFRs has shown that AFR capacity is required during the 1980s. Utilities have been and are continuing to rerack their storage pools at reactors to provide maximum on site storage and to use intra-utility transhipment where permitted.

For two decades prior to 1977, the Federal Government and the nuclear industry based their programs on the approach of recovering by reprocessing the energy values contained in spent fuel. However, the prior Administration changed that direction with its April 1977 declaration of an indefinite deferral of commercial reprocessing. This action of the prior Administration trapped the electric utility industry in the unfortunate position of having committed billions of dollars for nuclear generating facilities with limited on-site spent fuel storage capability and no reasonable alternative for disposing of the spent fuel. The industry fully recognizes that spent fuel represents a large national energy resource that should be used. Unfortunately, the direction for its use has been clouded by the Federal Government and a reasonable interim program has not been put in place to compensate for this Federal action. Thus, during the 1980s a number of presently operating nuclear power plants will need to ship their spent fuel to storage facilities away from the reactor site or face plant shutdowns. To assure the continued operation of existing nuclear power reactors a Congressional directive to the Department of Energy is needed to establish interim storage facilities by the mid 1980s.

We concur with the early indications by Secretary of Energy James B. Edwards for the need to resume the reprocessing programs halted by the prior Administration. However, it must be pointed our that commercial reprocessing could not be made available in sufficient time, with adequate capacity to be a substitute for the needed early AFRs. If the Federal ban on reprocessing were to be lifted today, the lengthy time of building and licensing any facility would still necessitate these early AFRs.

It should emphasize that the cost of programs for storage of spent fuel will be paid by the utilities to the Federal Government. These costs in turn will be reflected in the costs of providing electricity generated by nuclear power and ultimately borne by the utilities' customers.

Spent Fuel Reprocessing

The research and development program at the Barnwell Nuclear Fuel Plant in South Carolina should be contined and enhanced. What exists at Barnwell today is the largest modern spent fuel reprocessing facility in the world, but Federal policy has prevented its use.

During fiscal years 1979-1981 Congress appropriated funds for research and development programs at Barnwell. Direct Congressional support for the Barnwell programs came about after the prior Administration's April 1977 decision to indefinitely defer commercial reprocessing. During this period the programs at Barnwell have preserved the nucleus of its unique technical staff, produced valuable research results on the nuclear fuel cycle and maintained the option of using the Barnwell facility in the future. Programs at Barnwell have developed what many believe to be the most sophisticated nuclear safeguards system in the world. It is clear, based upon the actions being taken by other countries, that reprocessing of spent fuel will be a part of the world's energy future. We look forward to a re-instatement of commercial reprocessing early during President Reagan's Administration. The continuation of work at Barnwell will be enormously valuable when that occurs.

Commercial Nuclear Waste Management

The industry supports the need for a major DOE program on nuclear waste management that is focused on achieving a waste repository within a reasonable time period. The present research and development programs are expansive beyond reason and a clear direction must be defined. A step-by-step approach needs to be developed which will result in siting, construction and operation of a geologic repository. The current schedule for this is, however, unnecessarily relaxed because of the lack of program focus. During the last four years, the timetable for operation of the first geologic repository has slipped by more than a full decade from 1985 to about the year 2000. Utilities accept the responsibility to pay the Federal Government for disposal of nuclear waste, on a full cost recovery basis, for all reasonable program costs.

Breeder Reactors

Our industry continues, after many reevaluations, to be firmly convinced that breeder reactors must be developed as a long-term fuel resource for the production of electricity and the LMFBR is the preferred technology. While the timing for the commercial breeder reactors has receded further into the future than we has projected ten years ago, the need continues to exist and breeder reactors represent the only predictable means of serving the long-term needs of electricity for the nation along with the use of coal. Based on today's knowledge, we believe breeder reactors represent the concept most likely to succeed over the long haul. Since breeder reactors produce more fuel than they consume in the process of generating electricity, they are a form of renewable energy.

We fully recognize that the LMFBR technology entails major challenges that require massive efforts both in manpower resources and in developmental funding. Building upon the research and development efforts of the past 25 years we are definitely at the point where a demonstration facility should be built and operated as soon as possible. Other steps will be required to provide the basic knowledge and confidence that is necessary for the electric utility industry to accept the LMFBR as a dependable power system. This program entails several more decades of effort. The time frame however, does allow the U.S. to develop an indigenous breeder reactor capability if it is pursued expeditiously. If we continue to delay such an approach, we may be forced in the future to rely on licensing foreign technology and the purchase of foreign equipment.

In 1972, the utility industry entered into a cooperative agreement with the Federal Government to undertake the design, construction and operation of a liquid metal fast breeder reactor from a combination of about 750 electric utility organizations including investor-owned, public and cooperative utilities. This is the largest utility industry commitment ever made to such a program. Proceeding with the construction of the CRBR is a major element to rebuilding the confidence that has been lost over the last four years for engaging in cooperative industry/government programs.

Gas-Cooled Reactors

The high temperature gas-cooled reactor (HTGR) concept offers potential for greater operating efficiencies, greater flexibility in reactor siting, and possible application for industrial process heat requirements. Development of the HTGR continues to be supported both financially and with managerial expertise through the utility supported Gas Cooled Reactor Association (GCRA). Continued Government cooperation and support are vital to the success of the joint effort now under way.

Uranium Enrichment

We urge the Congress to continue its support for the development of gas centrifuge technology for uranium enrichment and the construction of the Gas Centrifuge Enrichment Plant (GCEP). The three DOE gaseous diffusion plants have served the U.S. military and domestic and foreign commercial nuclear programs well. However, the diffusion plants themselves are highly dependent on large quantities of electric energy. Fifty percent of the cost of present uranium enrichment services is the cost of electricity to run the diffusion plants. A gas centrifuge process would use only 4 to 5 percent of the electricity used by the diffusion process to produce a unit of separative work (SWU). The GCEP offers obvious benefits both in conservation of energy resources and in potentially reducing the cost to consumers. It is also an important element in maintaining our position in the international community as a reliable and competitive supplier of uranium enrichment services. We also encourage the development of advance isotope separation (AIS) techniques which may one day provide an even more efficient form of uranium enrichment. We caution, however, that AIS research and development should not detract from GCEP manufacturing, construction and installation aimed at meeting its present schedule of 2.2 million SWU by 1988 and subsequent increments at Portmouth, Ohio to a capacity of 8.8 million SWU. The GCEP offers a high confidence path for more efficient uranium enrichment while AIS requires major developmental efforts to apply the technology.

Utilities pay the Federal Government for uranium enrichment service on a full cost recover basis.

In conclusion, economic and reliable electric energy must play a greater role in this country and this can be achieved only with the use of nuclear power and coal. Nuclear power is a domestic energy resource that is converted to a high grade flexible energy form -- electricity. Major Federal programs are necessary to permit this potential large energy resource to be fully developed to serve the nation's growing economy, to displace the use of the world's depleting petroleum where-ever practical and to replace obsolete electricity generating facilities.

STATEMENT OF B. JOSEPH TOFANI, PRESIDENT, WATER RESOURCES CONGRESS

Mr. Chairman and members of the Subcommittee, the Water Resources Congress appreciates the opportunity to present its views concerning the proper development and management of our nation's water resources.

I am B. Joseph Tofani, President of the Water Resources Congress and I am appearing on behalf of Mr. Ival Goslin, Consulting Engineer of Grand Junction, Colorado, Chairman of our Board of Directors and Mr. Sam Collins, Vice President and General Manager of the Sabine River Authority of Texas and Vice-Chairman of our Board.

The Water Resources Congress is a nationwide organization and dedicated to the wise use and proper management of our water resources. We believe adequate water supply for all uses is a necessary ingredient to economic stability and growth.

We appreciate the efforts of this committee in its many struggles to appropriate adequate funds to provide for the projects to meet the water requirements of our nation.

It is difficult to come before this subcommittee at this time and plead for additional funds for water resources, when we are asked to make sacrifices to curb run-away inflation, balance the budget and increase defense spending. However, we are disappointed that many worthwhile projects cannot be initiated at this time or are being delayed. This Committee and the Congress are in the best position to determine the rate of progress we should be maintaining toward meeting our water requirements at this time.

As you are aware, many forces over the past few years have tried to discredit the water program. They have also practiced a divide and conquer strategy by attempting to stop a few projects or drastically curtailing others. I am sure they will try again. We urge this subcommittee as an absolute minimum to hold to the President's budget request for both the Army Corps of Engineers and the Water and Power Resources Service of the Department of Interior.

Concerning our water resources development and management program, we appear to be in a holding pattern. But perhaps this period of marking time can be turned to our advantage by taking time-out to reflect, study and develop a water program.

Each passing day we find new uses for our finite water supply. And as we find these uses for water we encounter more complex problems to solve. As we know, this country is blessed with sufficient water but unfortunately we face severe problems of availability and distribution in certain areas and at certain times.

We tend to forget nature does not run out of water, people do. Nature does not plan for the wise use of water, people do.

The last twelve months have witnessed the return of parched fields and low water supplies. And this time around the shortage is not peculiar to the West. It is also occurring in the water rich East, New Jersey and New York, Pennsylvania plus the northern plains are finding their water supplies running low. Add to this, the deteriorating water supply systems of many of our older cities, which will require multi-million dollar and in some cases billion dollar programs to rehabilitate these systems and it is easy to understand the massive water problems facing this nation.

Today, our nation and our people are paying a tremendous price for our imported energy. While the price is having an effect on our economy, the country is surviving. But what if we had a similar problem in water how would this nation survive? I do not believe we could buy our way out of a water crisis.

I need not remind this Subcommittee that water projects are getting more difficult to justify and more difficult for the American people to understand their importance when compared to our social programs which have had top billing in the past few years. It will not be an easy task to turn things around.

Today's energy crisis gives evidence that a new demand has been placed on our water. While some of our national leaders preach that the path to energy security leads to alternate energy development this is only part of the solution. We know that energy security can become a reality only if there is a parallel and aggressive effort to develop essential water resources that will be required to achieve this goal. Almost every source of energy proposed requires tremendous quantities of water -- water that is largely unavailable at the present time for such use.

Rest assured that as our country continues its growth, water for energy will not be the last requirement we will place on our water resources. There will be others, as the history of our nation has demonstrated over the past century and a half.

We must consider not only future needs but we must continue to provide and improve on methods for meeting existing water needs. We cannot rely solely on conservation as some define the term, as less demand, we must practice true conservation which is wise use.

In carrying out our water program in recent years we played a numbers game. We have never established a program, a goal, or an objective in the development of our water resources, but rather we justified each individual project by so-called benefit to cost analysis.

However during the 60's and 70's new programs were approved. No benefit to cost analysis, but total programs with goals, objectives.

So I think it is time that we develop a water program to meet the needs of our nation.

I would like to say a few words about multiple use of water. Flow regulations went out the window when the Clean Water Act was passed. An assumption was made by many, that controlling waste by treatment plants at the source would soon make every stream swimable and fishable. They forgot about the non-point source of pollution and also forgot the efficiency of waste-treatment plants.

They also forgot that by storing water in times of plenty and then releasing it during periods of scarcity, not only improves the quality of the water but it also increases the quantity and provides for environmental needs. I feel sure that multiple use, water supply and water quality environmental use in the streams is much more cost effective than solely a large number of sophisticated treatment plants and some way yet to be found for dealing with non-point sources.

During the early years of our nation, water resources development evolved in a piece meal fashion. It has continued in that fashion for 166 years. With every water crisis a slight interest develops in water resources and then quickly fades away.

I think the time has come for this country to develop a water program and not continue the piece meal approach. Time is running out before we must face a water crisis. I believe a reconstructed Water Resources Council with different functions could be useful in such an undertaking. Some sort of a mechanism is needed to develop and coordinate a water program.

The Administration is proposing abolishing the present Water Resources Council which we all know has not been useful in our water program. In its place the Administration is proposing a Cabinet Council on Natural Resources and Environment.

The Council would be chaired by the Secretary of Interior, with the Secretaries of Agriculture, Transportation, Housing and Urban Development and Energy as participants. The Department of Army, through the Corps of Engineers which is the lead Federal agency in the field of water resources, is not included and we believe if the Executive Branch chooses such a forum, the Army should be included.

We also understand that the Department of Interior is contemplating an Office of Water Policy. Again we believe that any Water Policy office should include agencies that have a responsibility in water resources.

If either of the aforementioned groups become a reality we would in effect have a Water Council without any input from the Legislative Branch. Most of the water people agree that the present Council has not been a success for several reasons. Most importantly, I believe, is that it has been under the exclusive direction of the Executive Branch. In order to develop a program to meet our water requirements, a Water Council must have a certain amount of independence but must also be responsible to both the Executive and Legislative Branches. The duties of the Council must be spelled-out so that its main responsibility is to develop a water program and keep it current.

In the past we became too concerned with certain details of the program but not the program itself. We spent too much time on benefit to cost analysis, attempting to justify periods of amortization, interest rates, types of benefits, cost sharing and the like. We never considered what the objectives of a water program should be. In effect we put the cart before the horse. We worried about all the details of justifying a project. I believe if we had developed a water program for each of our major river basins, the details as to responsibility, who should pay, and so on, would flow from the type of program developed.

We need to develop a water program NOW! If we delay, it will be too late.

One final assessment. We are not making full use of our water resources. While our nation and population continue to grow, our water development is not keeping pace. In fact it is grinding to a slow but sure halt. Our economy will do the same, if we fail to set a direction, an objective and a program to support the adequate development of water resources to meet the needs of this nation.

NORTH LOUP PROJECT, NEBRASKA

STATEMENT OF CYRIL P. SHAUGHNESSY, REPRESENTING TWIN LOUPS RECLAMATION DISTRICT AND THE TWIN LOUPS IRRIGATION DISTRICT

ACCOMPANIED BY:

HENRY G. LANGE, PRESIDENT, TWIN LOUPS RECLAMATION DISTRICT

STATE SENATOR DONALD L. WAGNER, 41ST LEGISLATIVE DISTRICT OF NEBRASKA

DONALD E. KILDAY, PRESIDENT, TWIN LOUPS IRRIGATION DISTRICT, AND VICE PRESIDENT, TWIN LOUPS RECLAMATION DISTRICT

Mr. CROW. The hearing will come to order.

Senator Hatfield and the other Members are facing back-to-back votes which will delay them for at least an hour and maybe beyond, and he has asked me and the staff to continue with the testimony.

Our next witness is Mr. Shaughnessy and his colleagues. Please come forward.

Please introduce your colleagues for the record and proceed.

Mr. SHAUGHNESSY. Thank you, Mr. Chairman. My name is Cyril P. Shaughnessy and to my right is Mr. Henry G. Lange, who is president of the Twin Loups Reclamation District. To my immediate right is Senator Don Wagner from the 41st Legislative District of Nebraska, also a former director of the Twin Lakes Reclamation District. Then to my left is Mr. Donald E. Kilday, who is president of the Twin Loups Irrigation District and also vice president of the Twin Loups Reclamation District.

Briefly, I just want to make a few statements and I will turn the remainder of my testimony, or rather my presentation, to these other gentlemen.

Our project is known as the North Loup Division of the Pick-Sloan Missouri basin program. Our budget allotment of $27,307,000 for fiscal 1982 is sought for the continued development, conservation, and wise use of our water and land resources in the North Loup and Loup River Valleys of Nebraska.

The Twin Loups Reclamation District and the Twin Loups Irrigation District are the sponsoring organizations for the North Loup project. In addition, the project is located in the Loup River basin in central Nebraska. This project, when completed, will irrigate approximately 53,000 acres of land, provide ground water recharge, and will provide not only a stable and economical water supply for irrigation purposes, but will open opportunities for new agri-business, stabilize employment, and provide much needed recreation, fish, and wildlife.

Mr. Chairman, that completes my presentation and I assume that my statement will be made a part of the record of this hearing. With that, I am pleased to turn the remainder of our presentation over to Mr. Lange, Mr. Kilday, and Senator Wagner.

LOCAL PROJECT SUPPORT

Mr. Lange. Thank you, Senator.

Mr. Chairman, my name is Henry Lange and I am president of the Twin Loups Reclamation District. Cy forgot to submit the letters which we have here in support, 210 letters incidentally, from people all over the State of Nebraska, including the immediate district. About 175 of those are from individuals in the district, farmers, ranchers, the county board chairmen, the county boards of five counties are involved, the city of Grand Island/Columbus, the new power districts and public power district in Nebraska, the Governor of the State who will be represented by Mr. Wagner later on, the national resource districts—NRD—of the State which cover all of the land in the State, the Nebraska Water and Power Resource Association represented by Jackie Garden, secretary-treasurer, have all submitted these letters.

So, in adding up the total number of people—I just did a quick one on that—we are talking about 50,000 people living immediately in the project area, 100,000 in the trade area. We have 1.7 million in Nebraska and the Governor represents all of those as elected by those people. The NRC, or Nebraska Resource Commission, is elected by the people of the State. The mayors of the towns, city councils, and the like, are also elected people. So we have a doubling of support of elected representatives, as well as 175 individual farmers and their families, which actually adds up to quite a few people.

In general, we might say we have almost unanimous support of the State of Nebraska.

POTENTIAL PROJECT BENEFITS

Getting back to the project itself, the North Loup River on which this project is built is part of the Loup River system in Nebraska. The Loup River system produces 1,700,000 acre-feet of water a year. Approximately 200,000 acre-feet are used at this time in other projects. This leaves 1.5 million acre-feet of water being wasted down river to fill the Gulf of Mexico, and they will never get it filled.

The benefits of the project—I have done a little work on that, and in the prepared statement it presents some figures on the Farwell project which is on the Middle River adjacent to the North Loup River, similar lands and water supply from the same river system.

Last year, we had a very dry year in central Nebraska. In our immediate area we had less than 10 inches of rain, which we have a normal of about 23 inches. So we were below half of our normal rainfall. Yet, under the Farwell project, it had an average production of $282 worth of crop per acre. Projecting this out in their case was $13,481,000 of product. Applied to our project which has about 10 percent more acreage, you have something over $15 million worth of product, direct benefit from the project in 1 year. The University of Nebraska has done a study on the economic impacts and they use a figure of $7 for each new dollar brought into the community. So we are having a $105 million economic impact on the State of Nebraska from this one project.

I think that at this time I will turn the microphone over to Donald Wagner here, who is representing the Governor of the State of Nebraska and has a statement.

Mr. WAGNER. Mr. Chairman, first of all let me say that I certainly do thank you for giving us the privilege to appear before you and making this testimony a part of the record.

The North Loup project lays within my legislative district. It has very good support from the people up and down I would say 90 to 95 percent of the people support it. I support it, and my two predecessors, Senator Kokes and Senator Rasmussen, also support it. And here with me, I am carrying a letter from the Governor of Nebraska, Governor Charles Thone, and I would like to have this letter entered as part of the record.

Essentially, what the Governor says is, he endorses the projects in Nebraska and funding before this committee.

That is basically my statement. Again, I want to thank you for the opportunity and the privilege to appear before your committee. Give my regards to Senator Hatfield.

NARROWS PROJECT, COLORADO

I do have one other item, that our legislature last week passed a resolution with a vote of 31 to 2. It's a resolution pertaining to the Narrows project in the State of Colorado. Our Nebraska Legislature endorsed the project and if you would, could this be passed on to Senator Hatfield? I would appreciate it.

Mr. SHAUGHNESSY. Now, it is my privilege to introduce Don Kilday, president of the Twin Loups Irrigation District and vice president of Twin Loups Reclamation District.

Mr. KILDAY. Mr. Chairman, my name is Donald E. Kilday and I am president of the Twin Loups Irrigation District. I represent the people in our district. I want to thank you for the support you have given us in the past. We are beginning to see the fruits of our labor by the starting of the construction on the reservoir side. We are earnestly asking you that you act favorably on this year's appropriations so that our goal in providing irrigation to the North Loup Valley may be realized. With the increased construction costs and rising energy and farm operation costs, we feel legislation of this project is of the utmost importance to our area.

I have served my area as a board member for nearly 30 years. It would be of most satisfaction to me to see this water used to irrigate our land.

Mr. LANGE. I would like to add a word in closing. The $27 million appropriation represents a $2 million cut from the Carter budget, and we accept that very willingly. We feel we have to get a handle on inflation and this is a 6-percent cut. If we can reduce inflation by 6 percent, or slow it down that much, we will have lost nothing. And if it is successful—and we certainly hope we will be successful in slowing down inflation—it will actually do us more good than harm.

Mr. CROW. You can live with the Reagan reduction?

Mr. LANGE. Certainly; yes

Mr. CROW. What impact would that have on the project, if any?

Mr. LANGE. As I said previously, it will have no adverse impact assuming that there is, say, a 6-percent reduction in the inflation rate to offset the 6-percent cut in appropriations. The $2 million is about a 6-percent cut. So, we feel it is not hurting us at all.

Mr. SHAUGHNESSY. I might just add as to the cut, it in no way affects the letting of the contract for the actual construction of the dam itself. The $2 million reduction could be absorbed in some of the other features that would have been done but can be done at a later date. It just means we had anticipated delivering water in the year 1984 and it is my understanding that now we will first irrigate water in May 1985. We have been coming back since 1954 so a year does not seem to be much of a problem to us. We are mostly interested in getting on with the initial construction of the Calamus Dam.

STATUS OF REPAYMENT CONTRACT

Mr. CROW. What is the status of the repayment contract on the project?

Mr. SHAUGHNESSY. The status of the repayment contract—in 1979, our Supreme Court validated our contract subject to elections. We had elections as a result of the mandate of the Supreme Court of Nebraska in June 1979. We had one election. We carried over and then in September that same year we had a second election which was carried. I might add further, that we were in litigation before the Federal court in Lincoln, Nebr., started back in 1976. In February 1980, the opponents attempted to obtain a temporary injunction restraining the Water and Power Resources Service from going ahead with the initial contract. On June 11, 1980, Judge Rovert Van Pelt denied the temporary injunction, so we proceeded with the initial construction of the foundation part of the dam.

I am pleased to say that possibly even today the Federal court will have dismissed the actual case that has been pending since 1976 through settlement with some of the landowners in the affected area. I am given to understand that this will be done not later than March 28, which will be this coming Saturday. So for all practical purposes there are no longer any pending litigations of any kind. Does that answer your question?

Mr. CROW. Yes, sir. Thank you.

I think Mr. Jones has a question also.

Mr. JONES. At the conclusion of that litigation, then, your contracts as far as repayments then will fully take effect?

Mr. SHAUGHNESSY. Well, actually this litigation was not necessarily directed to us. But for all practical purposes we have a repayment contract with the reclamation district, we have a repayment contract with the irrigation district, and they are in effect and we are operating under them.

Mr. JONES. And validated and ratified?

Mr. SHAUGHNESSY. And validated and ratified.

IRRIGATION BENEFITS

Mr. Jones. You should have an opportunity to respond to the opponents' assertions as they testified before this committee in the past and I assume in the future. There are 53,000 acres of irrigated land in your district now. That is the assertion each year by the opponents and, therefore, you need no reclamation project. How do you respond to the opponents saying that? For the record you ought to have an opportunity.

Mr. SHAUGHNESSY. I would like to ask two farmers here who can probably better respond than I can.

Mr. JONES. But you see that is an assertion before the Congress?

Mr. SHAUGHNESSY. Yes; and I think these three gentlemen can respond.

Mr. WAGNER. I have lands in that project area and I do not have any source of water and neither do a lot of my neighbors. There is some irrigation within the project area, but there are a lot of us who absolutely do not have any supply of water.

The other thing that is starting to develop, particularly in my area, is we have declining ground water tables. This can be verified by conservation surveys in Lincoln, Nebr. We are just completely without ground water.

Mr. LANGE. I can add this, that the Water and Power Resources Service checked on that assertion 2 years ago and you have to understand that in our district acres that could be served by the project are, I think, 73,000 acres, of which 28,000 is irrigated now. So that 20,000 is drawn out of the district, or a lot of it has. Some of the fellows with wells stayed in but their wells were not very good, or they had a well for 60,000 acres and with 5 gallons you could say it is irrigated, but certainly not adequately. We probably have 200 wells in the district.

Last summer—I have meters on two of my wells—and since 1976, a well that was pumping 550 gallons last year did not quite make 500. The ground water table when everybody pumps falls low enough you just do not get the water. That we have 53,000 acres is strictly fabrication. There is no basis in fact for it. Like Mr. Wagner does not have any sort of irrigation. I have a couple of wells and it averages about 200 or 300 acres per well. With a 500 gallon you can conceivably put a little water on each acre, about an inch or two. So it has a semblance of truth but it is not so.

DECLINE IN GROUND WATER LEVELS

Mr. JONES. What is the average decline in the ground level water say over the past 20 years?

Mr. LANGE. In some areas, 20 to 25 feet. In other areas it has not declined at all. At the beginning of the irrigation season the water is up there, but during the season there are too many wells. The water does not come in very fast and you pump too fast, you pull this thing down 100 to 150 feet and you all get less water and pump it a lot farther. If you lay off by December the water is back, but we do not need the water in December. It is in August we are really in trouble.

Mr. JONES. And the people in the district, how is the project characterized, A, B, or C, ground water recharge, full service irrigation, or supplemental water?

Mr. LANGE. Full service irrigation for 53,000 acres. In fact, we have application for 57,000 acres right now, which exceeds our authorization. The balance of it is ground water recharge. Well, in between those 53,000 acres there are some wells. I guess you would call that supplemental.

Mr. JONES. So it is a mixture of all three, but primarily full service?

Mr. LANGE. Primarily full service. Most of those wells will be shut off if they can get project water on account of saving energy.

Mr. JONES. Thank you.

Mr. KILDAY. I live on the lower end of the project in the valley and we have very poor wells down there. There is water down there but you cannot get it for sand. There are no wells over 300 gallons. In the last couple years, especially last year in the dry year, you just do not have water to go far enough. And another thing, the fuel costs. My boy irrigates out of the river and the river is pretty well developed above us and it is awful hard to get water. It is a tremendous cost. And another thing that was mentioned here about what people thought about our project, here is something we put together. I would again recommend to the committee the overwhelming support for the North Loup project displayed by our vote in 1979 for the appropriation of the repayment contract by a margin of nearly 2 to 1, for a vote of 65 in favor with a vote of 935 for and 515 against. And then a vote was taken on approval of the water service contract with people going to use the water. That was a margin of 4 to 1 with a vote of 81 in favor, and a vote which was 291 for and 63 against.

So I would say 89 percent of our people think of it as water to irrigate with. We need more than supplemental water.

Mr. CROW. Thank you very much for your excellent testimony. We apologize for the delays in coming before the committee. I know Senator Hatfield regrets he could not make it back. Thank you for bearing with us.

PREPARED STATEMENTS

Your prepared statements will be inserted in the record at this point.

[The statements follow:]

STATEMENT OF CYRIL P. SHAUGHNESSY, REPRESENTING TWIN LOUPS RECLAMATION DISTRICT

My name is Cyril P. Shaughnessy, and I reside at St. Paul, Nebraska. Our group appears here today in support of the continued construction of the North Loup Division, Nebraska Project. The Budget Allotment of $27,307,000.00 for Fiscal Year 1982 is sought for the continued development, conservation, and wise use of the our Water and Land Resources in the North Loup and Loup River Valleys of Nebraska.

It is my privilege to appear before you representing the Twin Loups Reclamation District and The Twin Loups Irrigation District. These Districts are the sponsoring organizations for the North Loup Division, Nebraska Project. This Multi-purpose Project is located in the Loup River Basin in Central Nebraska. This Project when completed will irrigate approximately 53,000 acres of land, provide ground-water recharge, and will provide not only a stable and economical water supply for irrigation purposes, but will open opportunities for new agri-business, stabilize employment, and provide much needed recreation, fish and wildlife.

With me today are Mr. Henry G. Lange, President of the Twin Loups Reclamation District, Mr. Donald E. Kilday, President of The Twin Loups Irrigation District, and Senator Donald L. Wagner from our 41st Legislative District of Nebraska. Senator Wagner was previously a Director of the Twin Loups Reclamation District for many years.

Mr. Chairman, permit me to express to you our sincere appreciation on behalf of the Districts for the confidence in us by continuing appropriations in Fiscal Year 1981. With these funds, land acquisition has moved to the point where over 92% of the Calamus Dam and Reservoir area has been acquired. Acquisition of right-of-way is approximately 60% completed for the first section of the Mirdan Canal and has been started for the remaining canals and laterals in the Mirdan System. The excavation of the foundation of Calamus Dam is nearly complete. We are anxiously awaiting the awards of the major contract for the construction of Calamus Dam, now scheduled for August, 1981, and the contract for construction of the first section of the Mirdan Canal, now scheduled for September, 1981. In addition, the Water and Power Resources Service is preparing the design for the remainder of the Mirdan Canal and Lateral System and for the Davis Creek Dam. Activity in cultural resource assessment and mitigation continues. I would like to emphasize to the Committee that this Spring's habitat plantings around the Calamus Reservoir are beginning to be planted so that substantial growth will have occurred by the time the Calamus Reservoir will be filled.

By way of further explanation regarding the wildlife habitat, I wish to state that our Project authorization has provisions for 150 acres of habitat mitigation plantings at the reservoir sites. In order to proceed with mitigation features, along with construction of other features, approximately 17 acres of habitat is being planted this Spring. The purpose of these habitat plantings is to mitigate the loss of the existing wildlife habitat to be inundated by the Calamus Reservoir. Furthermore, planting early in the project construction state will also enable the habitat to get established prior to intensive public use.

The many letters which we are submitting here today from the people living within the Twin Loups Irrigation District and the Twin Loups Reclamation District indicate their continuing support for this very necessary Project. With the Fiscal Year 1982 appropriations, the Water and Power Resources Service can continue construction of the Calamus Dam and the First Section of the Mirdan Canal; complete land acquisition of the remaining Mirdan Canal and Lateral System; continue land acquisition for Davis Creek Dam and Reservoir; initiate land acquisition and design of the Geranium Canal and Lateral System; design Davis Creek Dam and continue design activities for the remaining canals and laterals.

Regarding construction, I do want to point out to this Committee that in the Summer of 1976 a Federal Environmental Lawsuit was filed in the The United States District Court For The Dstrict of Nebraska wherein the United States of America, the Twin Loups Irrigation District and the Twin Loups Reclamation District, Department of Interior, Water and Power Resources Service, and others, were made Defendants, which law suit basicially alleges that the Environmental Statement was inadequate. In March of 1980, a Hearing was had before the Honorable Robert VanPelt, one of the United States District Court Judges, in which the Plaintiffs were attempting to obtain a preliminary injunction to stop the construction of the North Loup Project. On June 11, 1980, Judge VanPelt overruled and denied "the motion of the plaintiffs for the issuance of a temporary restraining order or a preliminary or temporary injunction." With this decision, construction commenced immediately thereafter and has continued on an orderly basis since June 11, 1980.

I am pleased to state that the Honorable Warren K. Urbom, one of the Judges of the United States District Court, District of Nebraska, has indicated to Mr. Lyle Strom, one of our Co-Counsel, that it is his understanding a settlement of this particular case is pending, and with the understanding that the settlement will now proceed, Judge Urbom will calendar the case ahead to March 28 of this year, by which date it is expected that the settlement and dismissal documents will be submitted. It is my understanding as a result of this directive, this particular case will be dismissed forthwith. With the dismissal of this particular case, I am happy to report that there are no pending litigation against either the Twin Loups Reclamation District or the Twin Loups Irrigation District either in the United States District Court For The State of Nebraska, or in any State Court in the State of Nebraska.

To demonstrate the effects of what an irrigation project can do for a local area, I take pride in stating that in the early 1960's, the Farwell Irrigation Project was completed. This Project is located in the Middle Loup River Valley, which is adjacent to our North Loup Irrigation Project. This Project serves approximately 50,000 acres of land in Howard and Sherman Counties, Nebraska. As evidence of the tremendous impact this Project has had upon the social and economic welfare of Central Nebraska, I am pleased to make a short summary from the Crop Production Report of the Farwell Unit for the Year 1980 and previous years.

The Crop Production Report indicates that of the 50,051 classified acres in the Farwell Unit, 47,523 acres were actually irrigated and harvested. Farmsteads, roads, farm drains, and irrigation rotation makes up the remaining acreage, resulting in a total acreage of 50,051 acres. The gross income of the total harvested cropland and pasture amounted to $13,481,684.00. The average value per irrigated acre was $282.00. According to information available to me, costs of the Farwell Project up to June 30, 1980 was $37,460,438.00. To further demonstrate that investment in Irrigation Projects is a wise and sound one, in the Year 1980 more than 36% of the total costs of the Project was realized in income to the irrigator in the Farwell Unit. To carry this point further, the total accumulated crop value from the Farwell Unit from the Year 1963 through the Year 1980 was $122,221,000.00. The figure of $122,221,000.00 is more than three times the total cost of the Project expended to June 30, 1980. Certainly with these convincing figures, we can state with pride that an investment in a Project such as the North Loup Project is an investment in the water resources of the State of Nebraska. This is an investment to insure the continued economic and social well being of not only the farmers residing in Twin Loups Irrigation District and the Twin Loups Reclamation District, but also for our citizens residing in the towns and cities within the Districts, as well as all the citizens of the State of Nebraska, including the related agri-businesses in the State of Nebraska, and the Nation as a whole.

As further evidence of the economic impact a project such as the Farwell Irrigation Project has upon the valuations for tax purposes within the boundaries of the Loup Basin Reclamation District, I wish to briefly state that the valuations for tax purposes within the boundaries of the Loup Basin Reclamation District for the Year 1980 was $50,376,570.00. The valuation within the boundaries of the Twin Loups Reclamation District for 1980 was $30,046,570.00. While the number of irrigable acres in the Loup Basin Reclamation District is approximately 63,000 acres and the irrigable acres within the boundaries of the Twin Loups Reclamation District is 53,000, by reason of the Sargent Unit and the Farwell Unit, the valuations in the Loup Basin Reclamation District exceeds the valuation in the Twin Loups Reclamation District by more than $17,000,000.00. As further evidence of the impact that the Farwell and Sargent Units have had upon the valuations for tax purposes, it is interesting to note that in the Year 1976 the valuation was $25,567,405.00. In the span of five years, the valuation has nearly doubled. Again, such increased valuations are added evidence that investment in irrigation projects such as the Farwell Unit and the Sargent Unit and now the North Loup Division is sound and economically wise.

In years past, we have been blessed with an abundance supply of grain. Today, our State, and particularly Central Nebraska, is faced with a continued drought. During the winter months we had very little snowfall and to date, the rainfall in the Counties of Valley, Greeley, Howard, Nance and Merrick has been minimal. If we are to fulfill our commitments to supply grain, not only for our domestic needs, but for foreign markets, it is paramount that projects such as the North Loup Project be constructed and placed into operation in order to insure an abundant grain supply not only to our Nation, but to the Nations of the World.

Further, it is significant to point out to your Committee that the pumping costs for Center Pivot irrigation, particularly on marginal lands, is simply becoming prohibitive. The cost of diesel fuel for Center Pivots on March 18th of this year stood at $1.17 per gallon. I know of one example of a four pivot systems whose cost of diesel fuel in 1980 was in excess of $6,000.00. Based on diesel fuel at $1.17 that same fuel cost for 1981 would be $7,140.00. While Center Pivot irrigation has been a boom to the agricultural economy and on good farm ground means continued growth of the farm economy, in the areas to be served by The Twin Loups Irrigation District and the Twin Loups Reclamation District, the savings in fuel is tremendously important. We must always remember that fuel is a finite resource, whereas water, while certainly exhaustable, but if properly conserved and utilized, can be replenished. The gallon of diesel fuel the Center Pivot uses is gone. The irrigation water to be made available by the North Loup Project normally will be applied by utilizing the force of gravity. The fuel cost saving and the replenishing of the water supply alone justifies the construction of the North Loup Project.

Fortunately for this Area, the Loup Valley Elevators located in St. Paul, Nebraska, with the cooperation of the Union Pacific Railroad, has now completed facilities to transport out of St. Paul Unit Trains consisting of 50 to 75 cars. In 1980, the Loup Valley Elevators transported by rail more than 1,800 car loads of grain to the West Coast. More than 75% of this grain was raised within a 50 mile radius of St. Paul, Nebraska, which includes lands to be served by the North Loup Irrigation Project. I am given to understand by the Manager of th local Loup Valley Elevators that his Company will market 8,000,000 bushels of grain in 1981, and in the year of 1982, the Company anticipates it will handle 10,000,000 bushels of grain. The Manager also reports that by reason of the company's facilities, the company has the potential of handling in excess of 15,000,000 bushels of grain annually. This potential can be realized in a large measure with the construction of the North Loup Project, and that when the Project is completed, the potential of 15,000,000 bushels of grain annually will certainly become a reality to the Loup Valley Elevators in St. Paul, Nebraska.

Aside from the economic and social benefits which will inure to the peoples residing within the boundaries of the Twin Loups Reclamation District and its trade territory, I believe it is also significant to point to the tremendous recreational facilities which will be provided by the construction of the Calamus Dam and Reservoir. All of us are aware of increased cost of travel, and as travel becomes higher and higher, people will utilize more frequently the recretional opportunities in their own areas. I am informed that the recretional use at the Sherman Reservoir, which is the water supply for of the Farwell Irrigation District, in the Year 1980 was 219,475 visitor days. In 1956, it was estimated that the visitor days would be 40,700 visitor days. It is evident there is a tremendous use of these recreational facilities afforded to the people of Nebraska at this time. In short, the visitors days in 1980 were over five times what was estimated the visitor days would be when the Farwell Project was being planned and when construction commenced shortly thereafter.

I am further informed by the Water and Power Resources Service that the recreation days for the Calamus Dam and Reservoir is estimated at 50,000 visitor days. If the same ratio of visitation is realized at the Calamus Dam and Reservoir, the visitor days would be in excess of 250,000 visitor days each year.

In July of 1978, the Nebraska Games and Parks Commission decided not to enter into a cost-sharing contract under P.L. 89-72, Federal Water Projects Recreation Act, until their environmental concerns had been addressed. On September 26, 1979, the Twin Loups Reclamation District entered into a Contract with the Water and Power Resources Service to assume the Non-Federal costs for recreation development associated with the North Loup Division. The Water Power and Resources Service, the Fish and Wildlife Service, and the Nebraska Games and Parks Commission proceeded to address the State's environmental concerns. On January 9, 1981, the Nebraska Games and Parks Commission stated its concerns had been addressed to the extent practicable and passed a Resolution to serve as the Non-Federal sponsor for fish, wildlife, and recreation enhancement of the North Loup Division under the provisions of Public Law 89-72.

The Twin Loups Reclamation District believes the Nebraska Games and Parks Commission is the appropriate Non-Federal sponsor for fish, wildlife, and recreation purposes, and the District will terminate its contract as soon as the Nebraska Games and Parks Commission enters into a PL 89-72 Contract with the Water Power and Resources Service. The Directors of the Twin Loups Reclamation District base much of their decision on the fact that the Nebraska Games and Parks Commission has performed and is presently performing a tremendous service to the people who enjoy the recreational benefits from the Sherman Reservoir as indicated in the preceding paragraphs.

In summary then, we believe we have demonstrated to you, Mr. Chairman, and your Committee that the North Loup Division has the required support as evidenced by the more than the two hundred letters of support submitted to your Committee, and by the results of the elections held in 1979. Again, I want to emphasize to you that the early completion of the North Loup Irrigation Project will provide not only a stable and economical water supply for irrigation purposes, but will open opportunities for new agri-businesses and stabilize employment; and that finally, the North Loup Irrigation Project will provide for the Citizens of the State of Nebraska, not only new economic possibilities, but will provide them tremendous recreation and wildlife facilities.

MEMORANDUM OF UNDERSTANDING AMONG THE UNITED STATES, NORTH CENTRAL NEBRASKA RECLAMATION DISTRICT, AND NIOBRARA BASIN IRRIGATION DISTRICT CONCERNING COMPLIANCE WITH FEDERAL WATER POLLUTION CONTROL STANDARDS FOR GROUND WATER

THIS MEMORANDUM OF UNDERSTANDING, made this 15th day of February, 1979, among the United States of America, hereinafter called the United States, acting through the Regional Director of the Lower Missouri Region, Bureau of Reclamation, and the North Central Nebraska Reclamation District, hereinafter called the Reclamation District, and the Niobrara Basin Irrigation District, hereinafter called the Irrigation District, both of which may be collectively referred to as the Districts.

The purpose of this memorandum of understanding is to recognize and implement more fully the provisions of the Federal Water Pollution Control Act, as amended, and Executive Order 12088, to ensure compliance with certain Federal pollution control standards, particularly related to the ground-water resources of the O'Neill Unit of the Pick-Sloan Missouri Basin Program, a Federal Reclamation project, and is entered into by the parties hereto pursuant to Federal Reclamation laws and the laws of the State of Nebraska.

The following preliminary recitals are made for the purpose of explanation:

a. The United States, acting through the Secretary of the Interior, is constructing the O'Neill Unit of the Pick-Sloan Missouri Basin Program, pursuant to the Act of October 20, 1972 (86 Stat. 964) and other Reclamation laws.

b. The United States has contracted with the Reclamation District (Contract No. 14-06-700-8394 dated May 18, 1976) for the furnishing of water through the water supply works of the O'Neill Unit for the delivery of said water to the irrigable lands of the Irrigation District.

c. The United States has contracted with the Irrigation District (Contract No. 14-06-700-8395 dated May 18, 1976) for the construction and operation and maintenance of certain distribution and drainage works to serve the irrigable lands of the Irrigation District.

d. The water supply to be provided to the Reclamation District pursuant to the provisions of Contract No. 14-06-700-8394 is to be delivered to the Irrigation District, pursuant to the provisions of a water service agreement to be executed between the two Districts.

e. Studies for the area, including the O'Neill Unit, indicate that nitrate-nitrogen concentrations in the ground water may exceed the Environmental Protection Agency's standards for domestic water supplies and public health. A source of such nitrates could be from the application of nitrogen fertilizers on the irrigable lands in the area. The uncontrolled application of nitrogen fertilizers, along with the excessive application of irrigation water to such lands, could contribute to pollution of the ground-water resources. Such studies also demonstrate that without the dilution effect of the project surface supply imported from the Niobrara River, the concentration of nitrate-nitrogen in the ground water will be substantially greater without the development of the O'Neill Unit because of the progressive depletion of the ground-water supply by pumping.

f. The Environmental Protection Agency has expressed concern about the high level of nitrates which could occur in the area's ground water as a direct result of irrigated agriculture, and has determined that reasonable best management practices should be implemented throughout the entire area. It is believed that by implementing best management practices on lands to receive irrigation water service from the O'Neill Unit, an example would be set for the entire area.

g. Executive Order 12088, "Federal Compliance with Pollution Control Standards" dated October 13, 1978, requires that each executive agency shall cooperate with the Administrator of the Environmental Protection Agency and the State, interstate, and local agencies in the prevention, control, and abatement of environmental pollution.

h. Among other things, the contracts between the United States and the Districts provide that the Districts shall, within their legal authority, comply fully with all applicable Federal laws, orders, and regulations, and the laws of the State of Nebraska, as administered by appropriate authorities, concerning the pollution of streams, reservoirs, ground water, or water courses. Said contracts further provide that the Districts and the United States acknowledge the desirability and the necessity of the adoption of proper soil and water conservation practices to protect the lands of the District against deterioration, to permit the economic use of water, and to sustain optimum crop yields, and that the parties thereto will cooperate to obtain these objectives.

THEREFORE, in furtherance of the provisions and objectives of the articles entitled "Water and Air Pollution Control" and "Soil and Water Conservation" of the aforementioned contracts between the United States and Districts and the provisions and objectives of Executive Order 12088, the parties hereto agree as follows:

1. The Districts, either jointly or separately, shall implement and operate or otherwise provide a program to advise the water users as to the proper timing and amounts of irrigation water application.

2. As a condition to receive water from the O'Neill Unit, the Districts shall require:

a. That no water user may receive project water until he has satisfactorily attended a training course, not to exceed one week, on irrigation scheduling to be provided by the University of Nebraska or other entity in the towns of Springview, Atkinson, or O'Neill. Such a course shall include the reasonable best management practices for irrigation water and crop fertilization application practices and procedures.

b. That each project water user will use soil moisture-measuring equipment.

c. That each project water user will institute and maintain an irrigation scheduling program. Such a program will include the use of information from soil moisture-measuring equipment and other procedures through which the water user will, to the extent practicable, schedule the application of irrigation water in amounts which will not move below the root zone.

d. That no water user receiving project water will apply nitrogen fertilizer to project lands during the fall and winter, except for minimum starter applications. The disposal of livestock manure is excluded from this limitation.

e. Prior to the delivery of water for the O'Neill Unit, the Districts shall issue such rules and regulations as may be necessary to implement the provisions of this article.

3. The District shall provide each user of project water with copies of current and revised University of Nebraska fertilizer guide sheets as they become available.

4. The Bureau of Reclamation, in cooperation with the Districts, will monitor and evaluate ground-water quantity and quality conditions related to the irrigable lands and facilities of the O'Neill Unit, but not for nondistrict lands in the area. Such monitoring and evaluation may be carried out in conjunction with other similar objective programs for the area.

5. The Districts shall be obligated to carry out the intent and provisions of this memorandum of understanding, consistent with their legal authorities under the laws of the State of Nebraska.

6. The provisions of this agreement may be modified from time to time by mutual agreement of the parties hereto, in consultation with the Regional Administrator, Environmental Protection Agency, Region VII. Any such modification shall at a minimum be in accordance with any State or local formally adopted plan pursuant to Section 208 of the Clean Water Act of 1977, or any rules or regulations promulgated pursuant thereto.

7. The term of this memorandum of understanding shall be the same as that provided in article 2 of the contract between the United States and the Reclamation District, Contract No. 14-06-700-8394, unless otherwise terminated.

BUREAU OF RECLAMATION

By ______________________
Regional Director
Lower Missouri Region

ATTEST:

____
Secretary

NORTH CENTRAL NEBRASKA RECLAMATION DISTRICT

By ______________________
President

ATTEST:

____
Secretary

NIOBRARA BASIN IRRIGATION DISTRICT

By ______________________
President

RESOLUTION OF GRAND ISLAND (NEBR.) AREA CHAMBER OF COMMERCE

WHEREAS, the Grand Island Area Chamber of Commerce has adopted a Water Policy Statement; and,

WHEREAS, the North Loup Division, Nebraska, meets the requirements of our Water Policy Statement; and,

WHEREAS, the North Loup Division, Nebraska, is an area underlain with the Ogallala Aquifer which the Federally funded High Plains Study Council Report says its groundwater will probably be deleted within the next 20 to 40 years; and,

WHEREAS, the import of surface water by the works of the North Loup Division will retard and/or possibly eliminate this declining groundwater at a reasonable cost; and,

WHEREAS, the well being of the people of the North Loup Division and the Loup River Valley is of great concern to us.

NOW THEREFORE BE IT RESOLVED, that the Grand Island Area Chamber of Commerce respectfully requests the United State Congress to continue the North Loup Division's construction funding for fiscal year 1982 to assure its earliest possible completion.

Respectfully yours,

E J Thayer

E. J. Thayer, President
Grand Island Area Chamber of Commerce

STATEMENT OF CLIFFORD STEFANOWICZ, CHAIRMAN, HOWARD COUNTY (NEBR.) BOARD OF COMMISSIONERS

The Board of Howard County Commissioners continue its strong support of the North Loup Project. During these past years, we, as a Board of County Commissioners, have observed the tremendous impact the Farwell Irrigation Project has had upon our County. We strongly believe this Project has assisted our County in stabilizing the tax structure of our County thereby making our County one of the sound and prosperous Counties of the State of Nebraska.

The North Loup Irrigation Project comprises a considerable portion of Howard County. The same social and economic benefits which have been enjoyed by the farmers residing in the Farwell Irrigation Project will certainly accrue to those who reside in the Twin Loups Reclamation District and The Twin Loups Irrigation District whose the boundaries are in Howard County, Nebraska, as well as those who reside in the other Counties served by the North Loup Irrigation Project.

As County Commissioners, we are constantly aware of water conservation in our area. It is our belief the North Loup Project, when completed, will be a great benefit to Howard County, the other Counties served by the North Loup Project, as well as the remainder of our State, and the Nation as a whole.

The North Loup Project will provide a ground water recharge which has been on the decline in many areas of Central Nebraska due to those who are already irrigating.

Finally, it is the belief of our County Board of Commissioners that it is imperative that we store and use surface water in the area of origin rather than permitting it to flow uselessly to the Gulf of Mexico. To be sure, the stored water may be utilized for recreation, fish and wildlife habitats.

Therefore, we as the Board of County Commissioners of Howard County, Nebraska strongly urge the approval of FY 1982 Appropriation of $27,307,000.00 for the North Loup Division in order that construction of this vital Irrigation Project can be continued and that the final construction of this Project can be completed by May, 1985.

STATEMENT OF MARTIN F. KAHLE, STATE SENATOR OF NEBRASKA

It has come to my attention that the budgeting for the North Loup Division Project is again up before the Appropriations Committee in Washington and that the amount for this year would be $27.3 million after a cut of $2 million by President Reagan.

I certainly support this project and hope that money will again be made available so that it may proceed. I have been an irrigator since 1934 and would certainly not want to get along without water in this area of the United States where rainfall is lacking to produce a full crop.

I am pleased that this project is finally under way and that people are beginning to understand that unless we conserve our water when it is available and running down our rivers that we are not going to have enough to provide the food for ourselves and for the rest of the world.

Thank you for your consideration.

STATEMENT OF J. MICHAEL JESS, ACTING DIRECTOR, NEBRASKA DEPARTMENT OF WATER RESOURCES

By its past actions this department has in effect granted State approval for construction of the North Loup Unit. The project was found to be an enhancement to the public interest. Sufficient, unappropriated water is available to support it.

On several occasions field personnel of this department have reported on various construction activities. In my judgement the project is being pursued with diligence. Barring any unforeseen delays, it should become operational as scheduled.

This department has also examined and approved plans for Stage I of the Calamus Dam. Thus the Engineering Branch of this department has found these plans technically satisfactory. Subsequent design plans for Stages II and III will be provided for approval purposes.

I am pleased to report on the status of the North Loup Unit from the view point of this department. Continued funding of the project is urged.

STATEMENT OF DENNIS RASMUSSEN, FORMER MEMBER NEBRASKA LEGISLATURE

In the upcoming appropriation hearings, would you please give support to continued construction funds on the North Loup irrigation project in central Nebraska.

As a former member of the Nebraska Legislature, I certainly see the direct benefits to the entire state.

The tremendous savings in energy is only one benefit that is vital, not only to the state, but also our nation. Underground water is precious in Nebraska. This project will help conserve underground water which is being depleted at an alarming rate.

Continued construction money is an investment that is needed for the future of our agriculture in the state.

Thank you.

Statement of John W. DeCamp, State Senator of Nebraska

In view of the fact that water conservation is of the utmost importance to this and future generations and projects such as the North Loup Division provide the means for that conservation, I would ask that you give this project every consideration when it comes before your Appropriations Committee the week of March 23, 1981.

The need for water is basic to the necessities of life and cannot be ignored while we continue to deplete the water supply. We must continue projects like this to take advantage of the water resources.

Therefore, I ask that your Committee act favorably on the 1982 fiscal year appropriation for the North Loup Division.

Statement of Al Najres, Chairman, Nebraska Natural Resources Commission

This is to advise you that the Natural Resources Commission, the Nebraska agency in charge of long-range water planning is in full support of construction of the North Loup Project. We fully recognize the project will stablize and enhance the agricultural economy of a significant portion of Nebraska as well as providing certain flood control and recreation benefits.

We feel the North Loup Project is an essential link in the water development and management activities of the state and therefore support continued funding for the project.

Statement of Edward Hudson, Nebraska

Much has been accomplished this past year in making our North Loup Project a reality.

Construction of this much needed Project got underway in the Summer of 1980.

While the Project is constructed primarily to provide irrigation water for 53,000 acres in Central Nebraska, other benefits will come about.

These benefits include the recharge of ground water, provide excellent habitat for fish and wildlife, and recreational benefits for the entire area.

I respectfully urge your Committee to give favorable consideration and approval of the appropriation of $27,307,000.00 for Fiscal Year 1982. This appropriation will provide the necessary funds to assure the completion of the North Loup Project by 1985.

Statement of Herman Pokorny, Nebraska

I request your continued support of appropriations for the orderly construction of the North Loup Division, Nebraska.

I understand the Proposed Budget for Fiscal Year 1982 includes funds in the amount of $27,307,000.00 to continue construction of the Calamus Dam, to initiate construction of the Mirdan Canal, continued collection of field data, and the continued land acquisition required for the project features.

Letter From Daryl Harvey, Mayor, St. Paul, Nebr.

March 18, 1981

Honorable Mark Hatfield, Chairman
Energy and Water Development Subcommittee
on Appropriations
The United States Senate
1322 Dirksen Office Building
Washington, D.C. 20510

Dear Senator Hatfield:

It is my pleasure as Mayor of the City of St. Paul, Nebraska to write this letter in support of the North Loup Irrigation Project.

For many years before assuming the position of Mayor, I sat on the City Council of the City of St. Paul, Nebraska. As a member of the City Council, I could readily observe how the Farwell Irrigation Project has affected the agri-business in St. Paul, as well as providing all the citizens in our Area a better social and economic well-being.

It is my understanding the North Loup Project is a similar project to the Farwell Irrigation Project. So, I am convinced the same benefits that have accrued to the Area served by the Farwell Irrigation District can also be served by having the North Loup Project completed at the earliest possible date.

We still have faith that in due time a 20,000,000 gallon grain alcohol plant with a capital cost estimated to be in the sum of $30,000,000.00 will be constructed in St. Paul, Nebraska. Certainly, one of the factors of bringing about this 20,000,000 gallon grain alcohol plant is the availability of corn and other grains for the production of grain alcohol. The construction of the North Loup Project certainly is an important factor in making the proposed grain alcohol plant feasible for this area.

Therefore, on behalf of the City of St. Paul, Nebraska, I strongly recommend that the Congress of the United States approve the Fiscal Year 1982 Appropriation in the sum of $27,307,000.00 for the North Loup Division, all to the end that the continued construction of this important Irrigation Project can be completed as early as May, 1985, and I remain

Very sincerely yours,

Daryl L Harvey

Daryl Harvey, Mayor
of the City of St. Paul, Nebraska

Statement of Robert L. Clark, State Senator of Nebraska

I would like to express my support of the North Loup Project which your committee will be discussing during the week of March 23rd through the 26th.

Senator Wagner of District 41 in Nebraska will be testifying before your committee in favor of this project. I believe this is a very worthwhile project and I hope that your committee will again allocate funds for it.

STATEMENT OF LAVERNE P. JACOBSEN, PRESIDENT, LOUP BASIN RECLAMATION DISTRICT AND FARWELL IRRIGATION DISTRICT

As President of the Loup Basin Reclamation District and The Farwell Irrigation District, I am pleased to write this letter of support for the continued construction program for the North Loup Division, Nebraska. We know living in the Middle Loup River Valley the importance of irrigation water conservation. We believe that when the North Loup Project is completed, this Project will be a great benefit to the Area, State and Nation. Not only will the North Loup Project provide farmers with surface water at a minimum of cost, but will also provide a ground water recharge which has been on the decline in the North Loup Valley.

Accordingly, it is our belief that the construction of the North Loup Division will bring to the North Loup and Loup River Valleys that same economic and social stability enjoyed by us who have been fortunate to have the Farwell and Sargent Units in operation for many years. Not only will the Project bring about that economic and social stability, but will also assure Nebraska a water conservation program which is so vital to all of us in the State of Nebraska.

It is with pleasure that I urge your Committee to support and fund the North Loup Division, Nebraska in Fiscal Year 1982 in the sum of $27,307,000.00.

STATEMENT OF ELROY M. HEFNER, STATE SENATOR OF NEBRASKA

I am writing this letter to you to urge you to support the appropriation bill for the funding for the North Loup Division Project (North Loup Irrigation Project) in Nebraska.

I understand the hearing on this appropriation bill will be the week of March 23.

The North Loup Project will be funded at 27.3 million dollars. These funds will be used for the construction of the Calamus Dam, first section of the main canal and roads in the reservoir area. The North Loup Project is presently under construction with road relocation work, buildings and the dam foundation trench.

I am supporting the project and it has good local support. The Governor of Nebraska, along with the Congressional delegation are also supporting the project.

Your favorable consideration will be greatly appreciated.

STATEMENT OF CLARENCE J. FOX, NEBRASKA

The North Project when completed will be a great benefit to the Area, State and Nation. For many the high cost of pumping water can be decreased when the Project is in operation. The Project will provide a ground recharge which has been on the decline due to increased irrigation.

We need to store and use surface water in the area of orgin rather than permitting it to flow uselessly to the Gulf of Mexico. The stored water may be utilized for recreation, fish and wildlife habitats.

I urge the funding to continue the construction of the North Loup Project.

STATEMENT OF MAURICE A. KREMER, STATE SENATOR OF NEBRASKA

It is my understanding that the Senate and House Appropriations Committees will be holding hearings on FY-82 funding for the North Loup Irrigation Project sometime during the week of March 23rd. I offer my continued strong support for the funding of this project.

Nebraska's economic future depends so much on its water supply, and especially for the use of irrigation. There are four areas in the state where we will likely run out of underground water as it is being presently used. We have much evidence at hand that the construction of this unit will supply recharge for the aquifer from which the North Loup area draws its water supply for irrigation. Therefore, the construction of the North Loup project will not only supply supplemental water, but also recharge the underground system.

Thank you for your consideration for this project which is so important to the State of Nebraska.

STATEMENT OF WILLIAM E. NICHOL, STATE SENATOR OF NEBRASKA

I take this opportunity to urge your support for the North Loup Division Project which will be discussed by your Committee. I understand that the price tag on this project is substantial, however, the cost/benefit ratio is favorable when considered in conjunction with the total financial impact this project will have in the effected area.

As you are undoubtedly familiar with the long term benefits of such irrigation projects from experience in the area of your representation, I need not go into further detail as to the total value of such projects to local economies. The area I represent would sincerely appreciate your support for the North Loup Division and ask your Committee to act with favor on the appropriation.

STATEMENT OF LORAN SCHMIT, STATE SENATOR OF NEBRASKA

It will soon be time for the Congress to determine the future of the North Loup Irrigation Project here in Nebraska. Your past support of the project is deeply appreciated.

I know that Congresswoman Virginia Smith will rely heavily upon your support in the Senate. It is very likely that the success of this project will depend upon the impetus given it by you and members of your committee.

I and many other Nebraskans will be most appreciative of your support.

STATEMENT OF MYRON RUMERY, STATE SENATOR OF NEBRASKA

I would like to take this opportunity to urge you and your committee to take favorable action on the 1982 fiscal year appropriation for the North Loup Division Project, scheduled for consideration later this month.

Water conservation is, of course, of critical importance to current and future generations. Projects such as the North Loup Division provide a means of halting the depletion of our water supplies, thereby helping to ensure that agricultural states like Nebraska will continue to provide the food products upon which this country and the world depend.

Thank you for your consideration.

LETTER FROM GOV. CHARLES THONE OF NEBRASKA

March 18, 1981

The Honorable Mark Hatfield
Committee on Appropriations
United States Senate
1322 Dirksen Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

The purpose of this letter is to strongly endorse the Administration's Fiscal 1982 budget requests for all projects involving Nebraska that are under the jurisdiction of your Committee.

Water is an issue of vital importance to the citizens of Nebraska. The wise use, proper management and conservation of water resources are essential to Nebraska's continued economic prosperity. As such, I would ask that you approve the total amount requested for water projects in Nebraska for Fiscal Year 1982.

Your favorable consideration will be deeply appreciated.

Sincerely,

CHARLES THONE
Governor

STATEMENT OF DONALD L. WAGNER, STATE SENATOR OF NEBRASKA

With each passing year, our Nation faces major problems relative to our natural resources inclusive of water. Within the North Loup River Basin, we have the water that could be put into storage during the non-irrigation months. This collected water could then be used during the summer for irrigation.

A project, such as the North Loup Division, is a step in the right direction towards conserving for the river basin and Nebraska a most valuable natural resource. With the world's continual population growth and need for food, completion of this project will provide hydro-electrical energy for future use and wildlife habitat suitable for recreational facilities for the general area.

As this project is within my Legislative District, I not only, give my support to this vital project, but I ask your Committee to favorably act with respect to the 1982 fiscal year appropriation. The project is needed to achieve our shared goal of protecting our natural resources, yet employing them to their fullest and most reasonable potential.

STATEMENT OF JACK ODGAARD, EXECUTIVE VICE PRESIDENT, NEBRASKA WATER RESOURCES ASSOCIATION

The Nebraska Water Resources Association, representing some 1,500 members from across the state of Nebraska interested in the development, wise use, and conservation of our water resources, is pleased to support the fiscal 1982 funding for the North Loup Division reclamation project.

We have supported the North Loup project since its inception and we urge you and the Senate committee to continue funding so that this important project can be completed and the benefits therefrom be realized as soon as possible.

STATEMENT OF RON COPE, STATE SENATOR OF NEBRASKA

I want to add my full support to the FY 82 funding of the North Loup Irrigation Project. My Legislative District #36 lies just south of Legislative District #41 where the Loup Irrigation Project is located and I know the project well.

The speed in which this project is completed is vital to Nebraska. The drouth last year was the worst since the 1930's. Our underground water take is lower in many areas. The North Loup Project will give us both the surface irrigation and underground water recharge which we need so desperately.

Nebraska needs your help!

STATEMENT OF HOWARD L. PETERSON, STATE SENATOR OF NEBRASKA

The North Loup Project has the whole-hearted support of the people of the Grand Island Area in Nebraska.

It is vital that this North Loup Project be completed as quickly as possible for agricultural, as well as economic reasons.

I urge your unreserved support for the continued funding of this very important project which affects the citizens of the Third District so vitally.

STATEMENT OF HAROLD F. SIECK, STATE SENATOR OF NEBRASKA

The need for water is not only necessary for the survival of Nebraska, but for all citizens of the United States. Therefore, I urge your support of the North Loup Division Project as a viable and important means to protect, preserve, and conserve this natural resource.

We as citizens of Nebraska need to look to our future water requirements. The North Loup Division Project is such a future measure, as well as presently possible.

I, therefore, ask this Appropriations Committee to act favorably on the 1982 fiscal year appropriation for the North Loup Division.

STATEMENT OF RICHARD F. ROWBAL, MAYOR, ORD, NEBR.

In as much as the above project is of the utmost importance to Ord and the surrounding areas with its offering of:

1. Irrigation of 53,000 acres
2. Provide recreation for untold thousands
3. Recharge of ground water

We consider it a privilege to add our name to the list of people who support this project.

LIST OF WITNESSES SUPPORTING NORTH LOUP DIVISION

Statements in Behalf of:

1. Maurice A. Kremer, Senator, District 34 and Chairman, Public Works Committee
2. Donald L. Wagner, Senator, District 41
3. Howard L. Peterson, Senator, District 35
4. Ron Cope, Senator, District 36
5. Martin F. Kahle, Senator, District 37
6. Harold F. Sieck, Senator, District 24
7. William E. Nichol, Senator, District 48, Chairman, Judiciary Committee
8. Elroy M. Hefner, Senator, District 19
9. Loran Schmit, Senator, District 23
10. John W. DeCamp, Senator, District 40
11. Myron Rumery, Senator, District 42
12. Robert L. Clark, Senator, District 47
13. Harold W. Ottoson, Assistant Vice Chancellor, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln
14. Max E. Kiburz, General Manager, Loup Power District
15. Jack Odgaard, Executive Vice President, Nebraska Water Resources Association
16. J. Michael Jess, Acting Director, State of Nebraska, Department of Water Resources
17. J. Michael Jess, Acting Director, State of Nebraska, Department of Water Resources
18. Dennis Rasmussen, Legislative Consultant
19. Harry Lustgarten, Jr., Chairman, Nebraska Railroad Association
20. LaVerne P. Jacobsen, President, The Loup Basin Reclamation District and The Farwell Irrigation District
21. Keith Davis, Secretary-Treasurer, The Loup Basin Reclamation District
22. Keith Davis, President, Loup Basin Surface Water Development Association
23. Thelma M. Dulitz, Valley County Clerk and Secretary to the Board of Supervisors, Valley County, Nebraska
24. Stanley Key, Chairman, Garfield County Board of Commissioners
25. [illegible]ford Stefanowicz, Chairman, Howard County Board of Commissioners
26. Richard F. Rowbal, Mayor, City of Ord, Nebraska
27. J. J. Lewis, Former Mayor of the City of St. Paul, Nebraska
28. Daryl Harvey, Mayor of the City of St. Paul, Nebraska
29. Dale J. Black, President, The First National Bank and Trust, Fullerton, Nebraska
30. Steve Vech, Chairman, Agricultural Committee, Ord Chamber of Commerce
31. Melvin W. Meyer, President, Howard Greeley Rural Public Power District
32. Francie Ostermeier, Executive, Secretary-Treasurer, St. Paul Business Development Corporation
33. Francie Ostermeier, Chamber Manager, St. Paul Area Chamber of Commerce
34. J. Marvin Weems, Attorney at Law, Ord, Nebraska
35. Robert B. Crosby, Attorney at Law, Lincoln, Nebraska
36. Stanley J. Edwards, President, Citizens Bank & Trust Company
37. Greg D. Stine, President, Nebraska State Bank, Ord, Nebraska
38. Dale Stine, President, North Loup Valley Bank, North Loup, Nebraska
39. Clarence H. Sixel, President, State Bank of Scotia, Scotia, Nebraska
40. Robert Sixel, Executive Vice-President, State Bank of Scotia, Scotia, Nebraska
41. Larry E. Hulburt, Cashier, State Bank of Scotia, Scotia, Nebraska
42. James S. Clinton, Executive Vice President, Scoular-Bishop Grain Company
43. J. A. Dinsdale, Dinsdale Brothers, Palmer, Nebraska
44. Rufus T. Amis, Jr., President, Missouri Valley Machinery Co.
45. Larry D. Masin, President, Karp and Krow
46. Clarence J. Fox

47. Herman Pokorny
48. Dean J. Rasmussen
49. Edward W. Hudson
50. Lawrence G. Roy
51. Harold Placke
52. Phyllis B. Kriewald
53. Gordon Kriewald
54. August C. Kriewald
55. Carroll Thomas
56. Merlyn Schudel
57. Thomas A. Holt
58. Samuel D. Jensen
59. Robert W. Vogehr
60. Dale Hortmann
61. Leonard W. Murphy
62. James Bryson
63. Victor L. Wegner
64. George Urich
65. Harold P. and Veola Rasmussen
66. Dale and Deb Rasmussen
67. Mr.and Mrs. Jerry Hansen
68. Gary F. and Kay A. Justesen
69. Francis and Virginia Justesen
70. Louie Cording
71. Mr. and Mrs. Rocke J. Jurzenski
72. Millard Vlach
73. Donald E. Hughes
74. Otto F. Gebhardt
75. Albert Zwege, Jr.
76. Don Petsek
77. Esther Fillinger
78. Doug Hughes
79. Irene B. Murphy
80. Mark V. Sonderup
81. Kenneth A. Tibbetts
82. Donald E. Kilday
83. Carl and Doris Anderson
84. Mr. and Mrs. Ernest F. Anderson, Jr.
85. Alex M. and Elaine M. Kulwicki
86. Mr. and Mrs. John Herbig
87. Tracy and Esther Herbig
88. Edward Lassen
89. Paul G. Julsgard
90. Ronald W. Wells
91. Anton Schmidt
92. Roland Spilinek
93. Charles Oeltjen
94. Anton F. Oeltjen
95. Donald P. Kilday
96. Bryce J. Pearson
97. Joy Jacobsen
98. Garrett and Arlene Petersen
99. Mr. and Mrs. Dean Thede
100. Alfred Novotny
101. Richard Spilinek
102. Lester Wells
103. Darrell G. Ingram
104. Robert W. Rasmussen
105. Harland Wells
106. Allen Rasmussen
107. Gary Rasmussen
108. James L. Vlach
109. Zigmond Palacz
110. Howard Lassen
111. Ray Nowak

112. Charles W. Tuma
113. Don Thompson
114. Carl Soneson
115. Jerry Polski
116. Clarence Polski
117. Lynn Jacobsen
118. Merrill Mason
119. Keith Kublish
120. Donald O. Asthelm
121. Rudolph John
122. Frank J. Zadina
123. Wm. Vancura
124. Eugene Novotny
125. Wm. Beran, Jr.
126. Vernon J. Potrzeba
127. John Potrzeba
128. William French
129. James Proskoul
130. Kenneth Petska
131. Donald Vancura
132. Joe and Maybelle Payne
133. Clinton A. and Doris R. Wells
134. James E. Nelson, Mgr., St. Paul Co-op Grain Association
135. Walter Alderman, Walt's Aerial Spraying
136. Merlin Goering, Howard County Clerk
137. Myron Ogard
138. Daniel C. Wells
139. Scott Russell
140. Richard L. Russell, Chairman, Nance County A.S.C. Committee
141. Rodney Russell
142. A. L. Russell
143. Clarence S. Hebda
144. Larry Cunningham
145. Lester L. Jacobsen
146. Carl M. Lehn
147. Errol Wells
148. Dan Rasmussen
149. Elwin Johnson
150. Eldon J. Maresh
151. George W. Radil
152. Simon O. Walkowiak
153. Richard Lola
154. Michael L. Jackson
155. Laverne C. Johnson
156. Joe M. Fryzek
157. Keith L. Novak
158. David E. Novak
159. Robert and Wynona Forbes
160. Ivan J. Cunningham
161. Vern R. Sonderup
162. Mervin and Geraldine Hornickel
163. Mr. and Mrs. Eldon Lange
164. H. S. Duvall
165. Robert J. Rasmussen
166. Ben Camp, Mgr., Farmers Grain and Supply Co.
167. M. A. Nowak
168. Donald G. Deininger
169. Gary L. Garnick
170. Donald E. Blaha
171. C. J. Klimek
172. Kent Hornickel
173. Mary Marshall
174. Ray Marshall
175. Lloyd D. Zikmund

176. Archie H. and Virginia Mason
     Mevill J. Mason
     Martin Mason
     Mrs. Phyllis Georgene Best
177. Viola M. Hackel
178. Rudolph Kokes
179. Russell W. Hackel
180. Mr. and Mrs. Ralph Spilinek
181. Mr.and Mrs. Neal D. Wiley
182. Allen Keep
183. Florence E. Hornickel
184. Edmund and Vesta Huffman
185. Larry Larkowski
186. Debra Sitz
187. Robert R. Cook
188. Donna Cook
189. Wilfred D. Cook
190. Mike Sitz
191. Mrs. Dan Cook
192. Alan D. Koelling
193. Orel and Elinor Koelling
194. Mr. and Mrs. Clarence J. Fox
195. Larry D. and Robyn L. Koelling
196. Alima M. Rajewich
197. Roger W. Walker
198. Evelyn M. Cook
199. Debra Sitz
200. Allan Bundy
201. Donna Cook
202. Robert R. Cook
203. Mike Sitz
204. Wilfred D. Cook
205. Mrs. Dan Cook
206. Allan Bundy
207. Lee Orton, Executive Director, Nebraska Association of Resources Districts
208. Dean J. Rasmussen, Chairman of the Board, Lower Loup Natural Resources District

ADDITIONAL STATEMENTS

Mr. Crow. Before we conclude the hearing, I want to incorporate in the record the statements of the Great Lakes Commission and the Interstate Conference on Water Problems.

Those statements will go into the record at this point.

[The statements follow:]

STATEMENT OF JAMES FISH, EXECUTIVE DIRECTOR, GREAT LAKES COMMISSION

The Commission was formed in 1955 by the eight States which border on the Great Lakes. Among other responsibilities, it represents the collective views of the eight States to Congress on water resources issues. The Commission's concerns range from regional economic issues such as industrial development, employment, imports and exports, ports and shipping to the resources management issues of water supply, water quality and fisheries management. This compact commission was instrumental in gaining passage of the original Water Resources Planning Act in 1965. Following that, our Commission led the way in formation of the Great Lakes Basin Commission permitted under the Act, and we sit on that Commission. In short, the Great Lakes Commission has had a continuous involvement since 1965 with the Water Resources Council and a river basin commission formed under the provision of the Water Resources Planning Act. The Great Lakes Commission is funded solely by annual appropriations from each of the member States and receives no Federal funding for operations, projects, or programs -- nor has the Commission sought Federal funding for any special projects of its own.

My statement on water project funding must necessarily begin with a report on the general feelings expressed in the Great Lakes water development community. Simply put, water managers in the Midwest see major projects and programs going forward in the South and West -- and very little happening in their own area. Appropriations for one project in the South or West generally exceeds the total funding for the Great Lakes hydrologic region. While water managers and elected leaders in the Midwest would not deny development to any other area, there is constant frustration over the minimum activity in the Midwest. Further, current discussion of user fees is not surprising to the Great Lakes water transportation community. For over twenty years, users of the St. Lawrence Seaway have paid the price of a user fee -- to the tune of $67 million U.S. funds. We operate a transportation system which has returned capital to the U.S. Treasury for each of its 22 years of operation.

Great Lakes Projects

I have attached an annotated listing of proposed and supported water project funding. I will not detail it in this testimony, nor do I necessarily expect it to be included in the record of this hearing. It is submitted for use by Members of the Committee and staff as you proceed in your scheduled mark up. During the course of your hearing, you will also hear specific testimony from Great Lakes States. Both New York and Ohio have indicated they plan oral testimony and Illinois plans to submit a written presentation.

There are several areas of the proposed budget that should be emphasized, however. First, operations and maintenance at approximately 57% of the Great Lakes budget represents the largest category of outlay in the system. In addition to maintaining the system, critical to retaining the investment already made by Federal, State and local governments, this category also provides the basis for ongoing environmental studies crucial for such efforts as season extension in the St. Mary's River reach of the system.

The diked disposal funding, a major requirement on the Great Lakes system at 20% of the budget assures that polluted materials will be adequately managed over extended periods of time. Because most the the diked disposal areas are being constructed to serve existing projects, it can be safely stated that well over 75% of the proposed Great Lakes civil works budget is committed to maintenance of the system. This is in comparison to a national program which applies only about 37% to O & M and 58% to new construction.

This disparity for the Great Lakes system leads many in the region to be concerned about the national approach to water management, water policy and program coordination, which will occupy the balance of my presentation.

Water Management Coordination

The need for water management coordination has been established in studies beginning with those initiated by President Theodore Roosevelt in 1908. In the years since, many government financed studies, including the National Commission on Water (1969-73) recommended strengthening Federal coordination.

The need for coordination was exemplified in the report of the U.S. Water Resources Council, "Planning and Cost Sharing Policy Options for Water and Related Land Programs" (November 1975). In this comprehensive summary of Federal and federally assisted water and related land programs the study team found "a total of 7 departments and 7 independent agencies -- including 18 agencies within the 7 departments -- with a water function or involvement." These activities were financed through 70 appropriations accounts. A total of 12 major water resources categories were identified with 32 subpurposes, representing a full range of financial assistance options to effect the purposes.

Since 1975 there has been no major change in this diversity of Federal involvement. Clearly, if water problems are to be solved, coordination in policy development, planning and implementation is a requirement.

The Water Resources Planning Act

The Great Lakes Commission believes that the Water Resources Planning Act must be completely revised if the Water Resources Council is to meet the policy coordination expectations of the Congress and the needs of the present water situation. As authorized in 1965, the Council simply did not have the authority needed to perform as envisioned. Reformed, the Council can provide a vehicle for effective coordination of Federal water policy.

For several years, the States individually and collectively have gone to the Congress and requested reform of the Water Resources Planning. Act. Each year since 1975, they have been told that such reforms will come "next year." This "next year" -- 1981 -- has potential for widespread national drought, and there is substantial need for the kind of Federal policy development and coordination that a reformed Council can provide. With a new Administration and a new approach in Congress, it should be possible to deal with this need, particularly since recommendations for reform have been developed which have widespread support by the States and which reflect recommendations from numerous studies since 1965.

Because of the recurring impasse in water legislation, last year the Great Lakes Commission formulated its own draft legislation to revise the Water Resources Planning Act. Following intense discussions among the States, this legislation was refined and recommended by the staff group for the National Governors' Association Subcommittee on Water Management, of which 22 States are members. This legislation would make the Water Resources Planning Act a much more effective policy instrument and would involve the States directly in the policy decisions. Essentially, the legislation would:

- provide an independent WRC Chairman
- reform Council membership
- legislate a role for the States
- provide annual reports to Congress on program and project needs including project lists developed by States
- provide for Congressional review of major WRC rules, such as Principles and Standards revisions
- reform the appointment and reporting process for river basin commissions so as to make them more responsive to States' needs
- expand and redirect the State grant program

Other than the staff of the NGA Subcommittee, headed by Governor Scott Matheson of Utah, this legislation is also supported by a recent survey taken by the Interstate Conference on Water Problems which indicates that 40 States and several intra state organizations essentially support the draft. Additionally, the Western States Water Council also completed a survey just recently of the 12 member States, and the eight responding indicated support for this legislation. I haven't compared the surveys, but it would seem that at least 45 States support it. Copies of the draft legislation have been submitted to the authorizing Committee members. Please note that the current draft does not include an independent review of water projects as proposed by the previous Administration.

Water Resources Planning Act Relationships to Block Grant Concept

It is understood that Congressional committees may also take up a block grant proposal proposed in the Senate by Senators Dominici and Moynihan (S.621). Because this represents a different approach to the water projects process, a short review of comments about that proposal may be helpful. Since S.1241, a predecessor bill, was first introduced (May 1979), the States have been debating the merits of the bill, but with no resolution. Some States -- those with large land areas and/or populations -- do support the bill. The remainder either are opposed or have been unable to reach any definitive stance. Also, there has been no economic analysis of the impact of the bill on the respoective States. Serious doubts have been expressed that there can be resolution and agreement on the merits of this proposed legislation early in this session.

S.621 and its predecessors bills call for administration of the block grants to the States by the Water Resources Council. Discussions among the States about the block grant proposal have generally concluded that the three titles of the Water Resources Planning Act -- policy coordination among Federal agencies, regions, State/Federal planning and program coordination, and water planning/management matching grants to States would be required to support this legislation. A reformed Water Resources Planning Act, in place before block grants for water programs is initiated, should assist in effective implementation of the new block grant approach. There is excellent support for the NGA/GLC legislation and there is pressing need to resolve the impasse over the Water Resources Planning Act. With the changes needed and now possible, and with a drought situation looming, I sincerely believe that Congress should and can act swiftly to replace the current mechanism, as a first step to resolving water policy issues.

Water Policy Set by Interior?

There has been much criticism of the Water Resources Planning Act and the Water Resources Council over the past several years. Some is fully justified. However, much of the Council's excellent work has been totally ignored in the negative atmosphere. Secretary Watt, for example, has presented the Council as an organization committed only to stopping projects, singling out the independent project review imposed by President Carter as a reason for Council dissolution. The independent review can be eliminated by a two line executive order. Secretary Watt has also campaigned to have water policy transferred to Interior on this basis. The essential issue is: should the Department of the Interior determine water policy? It should not, in the view of the Great Lakes Commission. We fail to understand the drive to place water policy in the hands of a single mission oriented agency -- Interior -- when that agency's experience is primarily limited to western programs. There is no expertise in ports, waterways, or waste water treatment. Experience in flood control is limited and primary municipal supply experience is limited to hydrologic characterization. The eight Great Lakes States are flatly opposed to such a proposal. Most other States are also opposed, including a number of Western States.

A reformed water Resources Council could and should take up immediately, water policy reform, including analysis of the block grant proposal, particularly the economic impact on States as well as other pressing issues such as the Principles and Standards which would continue to affect large, interstate projects. Reform legislation for the Council could direct it to work closely with the Congress and the States to review of water policy and programs and recommend changes. A definite (but realistic) deadline could be set. Such a study and recommendations would provide the Congress with a true test of the ability of the Council to perform.

Overall, a reformed Water Resources Planning Act and the reformed Water Resources Council should provide a continuing coordination mechanism between the numerous Federal agencies involved in water management. When conflict between agencies is identified, and cannot be resolved through administrative processes, the Council would bring it to Congress for consideration and resolution. Most importantly, active strong coordination should help both State and Federal agencies to meet future water needs -- whether through new development or improved management of existing sources.

Given sufficient authority and cooperation, if the Council cannot provide this to Congress, the Congress would be fully justified in terminating the Water Resources Planning Act.

Appropriation Recommendations for Water Resources Management

1. That funds be made available for the Water Resources Planning Act, subject to passage of reforms along the lines suggested.

2. That the Administration proposed recision of water planning grants to the States (Title III) be rejected so State capacity may be continued to function.

GREAT LAKES BASIN CIVIL WORKS PROGRAM
FY 1982 CARTER AND REAGAN BUDGET REQUESTS
AND CORPS OF ENGINEERS PROJECT CAPABILITIES

- Regional and State Projects -

	Carter FY 1982 Budget	Reagan FY 1982 Budget	C of E FY 1982 Capabilities
Total for Great Lakes	$105,017,000	$104,562,000	$126,376,000
Construction, Planning & Study Projects			
Construction	22,477,000	22,022,000	27,047,000
Advance Eng & Design (Planning)	13,815,000	13,815,000	15,805,000
General Investigations	490,000	490,000	985,000
Special Studies	7,824,000	7,369,000	9,729,000
	348,000	348,000	528,000
Operations & Maintenance	60,822,000	60,822,000	75,318,000
Diked Disposal Areas	21,718,000	21,718,000	24,011,000
Construction			
Navigation Projects	9,115,000	Except as noted on page 2 - Reagan Budget detail is the same as Carter Budget	10,895,000
Little Calumet River, Ill	115,000*		115,000
Cedar River Harbor, Mich.	-0-		380,000*
Knife River Harbor, Minn.	-0-		550,000
Cattaraugus Harbor, N.Y.	2,000,000*		
Irondequoit Bay, N.Y.	100,000*		100,000
Port Ontario Harbor, N.Y.	-0-		850,000*
Ashtabula, Ohio	5,300,000*		5,300,000
West Harbor, Ohio	1,600,000*		1,600,000
Flood Control Projects	3,700,000		3,910,000
Saginaw River, Mich.	500,000*		500,000
Danville, N.Y.	-0-		210,000
Ellicott Creek, NY	150,000*		150,000
Point Place (Toledo), Ohio	3,050,000*		3,050,000
Beach Erosion projects	1,000,000		1,000,000
Presque Isle (Erie) Penna.	1,000,000*		1,000,000
Advance Engineering & Design			
Navigation projects	235,000		465,000
St. Clair R. middle channel	-0-		65,000*
Black R., Alcona Co., Mich.	-0-		85,000

2.

Cross Village, Mich.	85,000*		150,000
Forestville, Mich.	-0-		80,000
Geneva-on-the-Lake, Ohio	150,000*		150,000
Flood Control projects	255,000		520,000
Lower Clinton River, Mich.	155,000*		420,000
Reno Beach, Ohio	100,000*		100,000
General Investigations			
Navigation surveys	2,879,000	2,789,000	3,394,000
Connecting channels	1,010,000*		1,010,000
Seaway locks improvement	400,000*		400,000
Great Lakes-Hudson River Waterway	300,000*		300,000
Lake Erie coast	-0-		120,000
Highland Park, Ill.	-0-		100,000
Illinois shore to Wis. line	-0-		125,000
Hammond, Ind.	-0-		100,000
Petoskey, Mich.	-0-		70,000
St. Joseph, Mich.	90,000	-0-	90,000*
Duluth, Minn. - Superior, Wis.	102,000*		102,000
Buffalo, N.Y.	500,000*		500,000
Cleveland, Ohio	202,000*		202,000
Lorain, Ohio	275,000*		275,000
Flood Damage Prevention surveys	4,945,000	4,580,000	5,535,000
Great Lakes, Metro areas	653,000		653,000
South end of Lake Michigan	100,000*		150,000
Chicagoland Underflow Plan	2,550,000*	2,185,000	2,550,000
Little Calumet River, Ind.	214,000*		214,000
Kalamazoo River, Mich.	-0-		200,000
Saginaw River, Mich.	295,000		295,000
Cattaragus Creek, N.Y.	-0-		100,000
Oswego River basin, N.Y.	600,000*		600,000
Cuyahoga River basin, Ohio	50,000*		125,000
Fox River & Tributaries, Wis.	383,000*		383,000
Ohio western Lake Erie shore	100,000*		265,000
Beach Erosion	-0-		800,000
Illinois shore, Lake Mich.	-0-		300,000*
Lake Ontario shore	-0-		500,000*
Special studies	348,000		528,000
Lake Erie wastewater management	348,000*		348,000
Diversion of Lake Michigan waters	-0-		180,000*

Operations & Maintenance	60,822,000	75,316,000
Connecting waterways; St. Marys, St. Clair & Detroit rivers & Lake St. Clair (4- -4 projects)	16,809,000	19,865,000
Illinois (3- -4 projects)	1,256,000	1,406,000
Indiana (1- -1 project)	563,000	563,000
Michigan (33- -37 projects)	16,096,000	22,090,000
Minnesota (1- -1 project)	145,000	145,000
Minn.-Wis. (1- -1 project)	1,978,000	1,978,000
New York (4- -7 projects)	4,051,000	6,181,000
Ohio (8- -10 projects)	15,525,000	16,785,000
Pennsylvania (1- -1 project)	166,000	1,366,000
Wisconsin (8- -11 projects)	4,233,00	4,939,000
Diked Disposal Areas	21,718,000	24,011,000
Detroit River	1,219,000*	1,219,000
Calumet River & Harbor, Il.	2,684,000*	2,684,000
Chicago Harbor, Ill.	1,342,000*	1,342,000
Chicago River, Ill.	2,684,000*	2,684,000
Waukegan, Ill.	108,000*	108,000
Indiana Harbor, Ind.	108,000*	108,000
Michigan City Harbor, Ind.	-0-	170,000
Alpena Harbor, Mich.	-0-	100,000
Big Ben Harbor, Mich.	-0-	100,000
Clinton River, Mich.	-0-	500,000
Frankfort Harbor, Mich.	-0-	523,000
Keweenaw Waterway, Mich.	-0-	100,000
Lexington Harbor, Mich.	-0-	100,000
Menominee Hbr., Mich. & Wis.	-0-	100,000
Monroe, Mich.	7,288,000*	7,288,000
New Buffalo Harbor, Mich.	-0-	100,000
Port Austin Harbor, Mich.	-0-	100,000
Presque Isle Hbr., Mich.	-0-	100,000
St. Joseph Harbor, Mich.	-0-	100,000
Rouge River, Mich.	397,000*	397,000
Saginaw River, Mich.	1,678,000*	1,678,000
Ashtabula, Ohio	220,000*	220,000
Sandusky Harbor, Ohio	-0-	200,000
Kewaunee, Wis.	290,000*	290,000
Sheboygan, Wis.	3,700,000*	3,700,000

GREAT LAKES BASIN CIVIL WORKS PROGRAM
FY 1982 CARTER AND REAGAN BUDGET REQUESTS
AND CORPS OF ENGINEERS PROJECT CAPABILITIES

OPERATION AND MAINTENANCE ACTIVITIES

- Regional and State Projects -

	Carter FY 1982 Budget	Reagan FY 1982 Budget	C of E FY1982 Capabilities
Regional waterways	16,809,000		19,865,000
Detroit River	5,316,000		7,757,000
Lake St. Clair	660,000		660,000
St. Clair River	823,000	No changes reported for Reagan Budget - All O&M supported to the extent funds available	823,000
St. Marys River	10,010,000		10,625,000
Illinois	1,256,000		1,406,000
Calumet Harbor & River	406,000		406,000
Chicago Harbor	462,000		462,000
Chicago River, North Br.	-0-		150,000
Waukegan Harbor	388,000		388,000
Indiana	563,000		563,000
Burns Waterways Harbor	563,000		563,000
Michigan	16,096,000		22,090,000
Arcadia Harbor	105,000		105,000
Black River (Port Huron)	551,000		551,000
Black River Harbor	156,000		156,000
Bolles Harbor	-0-		453,000
Caseville Harbor	557,000		557,000
Charlevoix Harbor	187,000		187,000
Cheboygan Harbor	793,000		793,000
Clinton River	-0-		253,000
Frankfort Harbor	1,566,000		1,566,000
Grand Haven & Grand River	578,000		945,000
Grand Traverse Harbor	566,000		566,000
Harbor Beach Harbor	727,000		727,000
Holland Harbor	232,000		490,000
Inland Route	189,000		491,000
Keweenaw Waterway	283,000		1,364,000
Lac LaBelle Harbor	192,000		192,000
Leland Harbor	149,000		149,000
Lexington Harbor	440,000		440,000
Little Lake Harbor	178,000		278,000
Ludington Harbor	111,000		111,000
Manistee Harbor	161,000		323,000
Monroe Harbor	758,000		758,000
Muskegon Harbor	321,000		453,000
New Buffalo Harbor	912,000		912,000
Ontonagon Harbor	460,000		730,000
Pentwater Harbor	234,000		234,000
Petoskey Harbor	-0-		100,000
Point Lookout Harbor	830,000		830,000
Port Sanilac Harbor	198,000		467,000
Portage Lake Harbor	233,000		233,000
Rouge River	1,157,000		1,157,000
Saginaw River	1,862,000	No changes reported for Reagan Budget - All O&M supported to the extent funds available	3,411,000
Saugatuck Harbor	275,000		275,000
Sebawaing Harbor	26,000		26,000
South Haven Harbor	359,000		359,000
St. Joseph Harbor	750,000		1,282,000
Traverse City Harbor	-0-		164,000
nesota	145,000		145,000
Two Harbors	145,000		145,000
Minnesota-Wisconsin	1,978,000		1,978,000
Duluth-Superior Harbor	1,978,000		1,978,000
New York	4,051,000		6,181,000
Barcelona Harbor	-0-		300,000
Black Rock Channel	1,232,000		1,232,000
Buffalo Harbor	1,769,000		1,769,000
Olcott Harbor	-0-		200,000
Oswego Harbor	567,000		567,000
Rochester Harbor	483,000		1,983,000
Wilson Harbor	-0-		130,000

Ohio	15,525,000	16,785,000
Ashtabula Harbor	402,000	402,000
Cleveland Harbor	7,412,000	7,412,000
Conneaut Harbor	1,248,000	1,248,000
Fairport Harbor	865,000	865,000
Huron Harbor	392,000	392,000
Lorain Harbor	457,000	457,000
Rocky River Harbor	-0-	1,000,000
Sandusky Harbor	1,076,000	1,076,000
Toledo Harbor	3,673,000	3,673,000
Vermilion Harbor	-0-	260,000
Pennsylvania	166,000	1,366,000
Erie Harbor	166,000	1,366,000
Wisconsin	4,233,000	4,939,000
Ashland Harbor	622,000	622,000
Fox River	1,511,000	1,511,000
Green Bay Harbor	774,000	774,000
Kewaunee Harbor	430,000	430,000
Manitowoc Harbor	374,000	374,000
Milwaukee Harbor	166,000	166,000
Pensaukee Harbor	-0-	150,000
Port Washington Harbor	101,000	219,000
Racine Harbor	-0-	338,000
Saxon Harbor	-0-	100,000
Sturgeon Bay Harbor	255,000	255,000

STATEMENT OF CLAIR P. GUESS, JR., CHAIRMAN, INTERSTATE CONFERENCE ON WATER PROBLEMS

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My hope was to personally present this statement to you on March 24, however, the agenda was filled, and I present this statement for the proceedings of the hearing.

I am Clair P. Guess, Jr., Chairman of the Interstate Conference on Water Problems, Chairman of the Southeast Basins Inter-Agency Committee and, for the past 14 years, Executive Director of the South Carolina Water Resources Commission. However, after 40 years experience, serving in the public and private sectors involving a wide spectrum of natural resources, I pose as no expert for I feel this Nation's involvement in natural resource affairs has just begun. Water and related land resources in particular are vital to this Nation's well-being, and they are of prime importance to every state and to the smallest of communities. Current trends forecast in budget cuts, the creation of a national water policy division in a single department of the Federal government, and rescinding of prior appropriations in the form of matching grants to states in mid-year, are frustrating, disruptive, and confusing. Further, by these actions and more, a breach of confidence exists that will be very difficult to reverse.

Today, I am speaking on behalf of the Interstate Conference on Water Problems, an institution created in 1959. Its membership is constituted by state, intrastate and interstate officials concerned with water resources administration and related matters.

With this as a background, I wanted to let you know that the ICWP continues to strongly support coordination of federal water policy and programs, with an effective voice for the states in such formulation; and a continued grant program to the states for water resources planning, expanded to include management as well as effective water resources planning on hydrologic boundaries. In short, ICWP views reform of the Water Resources Planning Act as a priority issue for the attention of the Congress. For several years, our organization and others, as well as individual states, have been told that such reform would come "next year." With a new Administration in office and a party platform proclaiming commitment to a state voice in water resources policy and state management of the resources, this must be the year for sound reforms in a truly federal-state cooperative effort.

There is be an urgent need to take immediate steps to amend and reauthorize the Water Resources Planning and Coordinating Act of 1965 (P.L. 89-80). On behalf of the membership of the Interstate Conference on Water Problems, while serving as its Chairman, I am empowered to seek your support and any action you deem necessary to accomplish this task early in this session of Congress.

ICWP proposed amendments to P.L. 89-80 are based on more than six years of study, and they are quite similar to the position taken by the Sub-Committee on Water Resources of the National Governors' Association chaired by Governor Scott M. Matheson of Utah.

In November, 1980, the 58 constituents of the ICWP, including state, interstate and intrastate water resources officials, were polled on this issue. Forty responded and, with few minor exceptions, they expressed agreement with the ICWP draft of proposed amendments to P.L. 89-80. We have worked hard to achieve, among other items, responsible federal water policy and program coordination and a voice for the states in such undertakings. Copies of this proposed draft have been provided to members of the House and Senate, including members of your committee, Mr. Chairman.

The Water Resources Council, despite the many current critical statements, has been responsive to the intent of Congress when viewed over the long span of time and in the perspective of the limitations imposed by the Act itself. Since the onset of the Carter Administration, however, the effectiveness and responsiveness of the Council greatly diminished due to the nature of the appointments to the staff and of the Council Members themselves. Additionally, the Council was inappropriately dominated by the Interior Department Chair committed only to an environmental viewpoint. As a direct result, the Council has not received necessary Congressional reauthorization legislation and has been subjected to very harsh and often inappropriate criticism. However, there still remains, regardless of comments to the contrary, a great need for a sustained national effort in support of water and land related resources planning, management and conservation based upon the individual state or interstate needs.

Mr. Chairman, the states are unified on what reforms we want in the Water Resources Planning Act. Let me outline those reforms.

Council Membership

Streamline the membership and firm up the decision process so that a single agency cannot veto decisions. Members should be (1) an independent Chairman — I'll come back to that; (2) the Secretaries of Agriculture, Army, Commerce, HUD, Interior and the Administrator of EPA. Non-voting members should include the Secretary of Energy, the Secretary of Transportation, the Administrator of the Federal Emergency Management Agency, and the Chairman of the State Advisory Council.

Independent Chairman

The states do not feel that any federal agency should be permitted to dominate water policy. Unfortunately, it tends to cause some regional splits and also tends to distort development of policy. The independent chairman should be a high level Presidential appointee confirmed by the Senate so that he is also responsible to Congress.

State Advisory Council

We feel a fairly large advisory council should be established so that all the necessary views and geographic interests are addressed. We want this legislated so that there is a definite role which cannot be reversed by arbitrary decision. Regardless of the many commitments to consult with the states made by various administrations, it always seems to go astray. We hope this will firmly establish that water policy is a matter for state participation and a prime responsibility for states in its administration.

We have agreed upon several steps to increase the interface between federal agency programs, budgets, water policy decisions of the Council, and state and regional planning, as well as with the Congress. Those include regular reporting by the Council to the President and the Congress on needs and recommendations.

Principles and Standards

We need to step back and take a serious look at the Council's latest revisions of the Principles and Standards, and a redirected Council can certainly do that. Further, there must be a built-in mechanism for Congressional review of the changes in the Principles and Standards, but it should not have a provision for automatic repeal if the Congress fails review.

Independent Project Review

The matter of independent project review by the U. S. Water Resources Council (as currently constituted) is not supported by ICWP, and we concur in the sentiments of the Congress to that end. We strongly support the role of the Congress in maintaining a strong voice in project evaluation, selection and funding support. However, we also believe that the Congress can obtain a clearer view of project proposals when they are handled with coordination and cooperation from the states. The interface of states working with federal water resource authorities has been one of the strongest and most often overlooked virtues of the Water Resources Planning and Coordination Act of 1965. For these often unaccounted values are a basis for our seeking reform, extended authorization and adequate funding for an amended P.L. 89-80.

River Basin Commissions

States overwhelmingly support the need for regional -- interstate -- planning for water resources. Title II of the Water Resources Planning Act presently addresses this. Formation of Commissions is at the option of the states and we recommend that it should remain so. However, states should have more participation in the selection of the Chairmen. Additionally, the link between the Council and the

Commission should be strengthened by appointment of Commission Chairmen by the Council's independent Chairman from recommendations of the Governors of the participating states. These would not be political appointments. We believe that greater state control of the Commissions will improve their performance. The Commissions should also serve as a forum for achieving federal consensus on issues effecting the region.

State Grant Program

The $5 million recision proposed for FY 1981 is disastrous. Some states already have grant awards based on the higher amounts. Commitments have been made and staff hired. Programs are underway. At stake is a 30 to 50% cutback in program effort while such problems as the current drought of nationwide impact dictates a need to expand our efforts more than four times over. Having said that, let me tell you why states do need federal matching grants for their water resources management, at least for another ten years. Water is so taken for granted by so many states -- including western states -- that management by the states is simply not funded at levels adequate to do the kind of planning and management which will assure that there is a supply in the future.

At this time, we are looking at a long, long road before we reach the point that states are financially able to take over the role which the federal government has played in water resources, even though the states need to do so. We must begin to set our sights toward that end. At this time, the planning grants administered by the Council should be broadened to include management opportunities and should be increased so that state capabilities, can fulfil the necessary state role advocated by the Administration. We must look to conservation, coordination of quality and quantity planning and groundwater and surface water conjunctive management, At one point, $50 million yearly was requested for this purpose, but it was cut and cut and now rescinded. Frankly, the states could match that amount. However, in this time of budget restraint, a minimum level would be $20 million for grants increased annually over the next ten years.

Funding

Approximately $14 million would be a minimum level for other activities of the reformed Water Resources Planning Act (P.L. 89-80) including Administrative costs, funding for river basin commissions and ongoing studies as well as the assessment of the Nation's water resources.

Research and Technology:

A strong arm to the Nation's wealth in knowledge stems from research and technology and, if you please, the training, development and the provision for experience of our young graduates of colleges and universities in water and land related resource affairs.

While there are some unfriendly aspersions of the efforts of and the need for an Office of Water Resources Research and Technology within the Department of Interior, let me assure you that the need still exists. Recision of $11.8 million in 1981 funds and a zero budget in 1982 funds is frightening. Admitted, reforms in this effort are in order.

However, as a person who, through the years, has hired many college graduates having received training under this program, I must say we need more of them, not less. Estimates from the Environmental Protection Agency project a need for nearly 500 well-trained Hydro-Geologists in new positions nationwide. Unfortunately, there are not enough trained technical professionals in this science to meet the current day-to-day needs of the states. As a matter of fact, those being trained under current and past state-federal funding under Title III of P.L. 89-80 are "grabbed up" by consulting firms, industry and higher paying federal positions routinely. Such actions leave the states stripped of their most valuable and desperately needed employees.

Accordingly, I suggest that the federal inputs to state-federal water resource programs be viewed as a whole without prejudice, but with the solid conviction that the past and future economic base of America is vested in its land; its water; its people working in concert.

Mr. Chairman, thank you and the members of your committee for this opportunity to summarize the views of some 58 constituents of ICWP and, admittedly, those of myself as a dedicated engineer whose career has been spent for the betterment of the democratic dreams of all Americans.

SUBCOMMITTEE RECESS

Mr. Crow. The committee stands in recess until 9 a.m. tomorrow.

[Whereupon, at 3:30 p.m. Tuesday, March 24, the subcommittee was recessed, to reconvene at 9 a.m. Wedenesday, March 25.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1982

WEDNESDAY, MARCH 25, 1981

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D.C.

The subcommittee met at 10:10 a.m. in room 1318, Everett McKinley Dirksen Senate Office Building, Hon. Thad Cochran presiding.

Present: Senators Hatfield, Garn, Cochran, Johnston, and Stennis.

NONDEPARTMENTAL WITNESSES

SUBCOMMITTEE PROCEDURE

Senator COCHRAN. The subcommittee will come to order. I want to welcome all of you here this morning. We have a large number of witnesses who are interested in being heard by the subcommittee. We are very happy to notice that we have with us this morning our distinguished colleagues from Louisiana and Arkansas, Senators Long and Pryor. I want to welcome you to the subcommittee and ask if at this time you have any remarks or comments that you would like to make, we would certainly be happy to receive them.

Senator Long.

STATEMENT OF HON. RUSSELL B. LONG, U.S. SENATOR FROM LOUISIANA

Senator LONG. You will have very fine witnesses here before this committee and I would commend all of them, especially those who come from Louisiana and those from Mississippi, Arkansas, and the other States that share the common boundary with us.

Mr. Chairman, we hope you will give thoughtful consideration to the testimony of these witnesses from our State today, and we hope that in consideration of the measures that come before this subcommittee that you will try to be fair and you try to be evenhanded in exercising your discretion in supporting what I know is the President's desire to try to balance the budget to fight inflation and increase productivity in this country.

RED RIVER WATERWAY, LA.

We are particularly concerned in Louisiana about the Red River navigation project, because that project is under construction and it has been going on for some time. My estimate is that there has now been invested about $330 million of Federal and State funds in this project. A great deal of the engineering and the studies that you have to have in order to design and build the locks and dam are located there and there is a lot of contruction money involved in this.

POTENTIAL ENERGY BENEFITS

Since this matter was studied and the project was justified, others have come forward and indicated that the justification is far more than we originally estimated. For one thing, energy prices increased tenfold since that time and now the project will support five hydropower sites at the dams developed by private funding. It is estimated they will generate over $3 billion of electric power to reduce power rates and help meet the energy crisis up and down the entire Red River Valley. And that will help reduce this Nation's dependency on foreign oil.

Furthermore, the lignite in the area will be developed. And while I am not sure anyone can guarantee to you that the lignite will be carried, yet, I think that this project shows all the indications of having the same kind of experience that you had with the coastal waterways—a project which has proven to be 16 to 1 the last time I looked at it. But, the Government has received its investment back, not just tenfold, but a great deal more than tenfold. So that we believe this is a well justified project.

IMPACT OF BUDGET REDUCTION

The point we would particularly like to direct your attention to is the fact that the President doesn't propose to cut this one project on a percentage basis, as they would every other project. Basically, they are suggesting a 100-percent cut in this one project. I am happy to say they are not suggesting that we terminate the project, but they are suggesting there be no further appropriation beyond the money that is already under contract. And we believe that is unwise and not evenhanded, and it is not in keeping with the commitment that for the economy they were going to be fair and they were to be equitable and across the board.

We hope very much that this committee, in studying the matter, will consider our problem and abide by the golden rule, which I think is the only fair rule, to treat the others as you would like to be treated. I know if we were looking at the Tennessee-Tombigbee project and someone was suggesting that the other people should be cut by 10 or 15 or whatever percent, but that the Tombigbee would be cut by 100 percent, your neighbors in Louisiana would be sympathetic to your problem.

We ask that you show the same sort of kindness and understanding to our situation as we would expect to show you. We know you will give it your very kind and thoughtful consideration.

Senator COCHRAN. Thank you, Senator. We appreciate so much your being here and helping us in the hearing. The Mississippi Valley is one of great importance, not only to this Subcommittee on Energy and Water Development, but to the entire Senate. We know that through the years you have been an eloquent spokesman in behalf of further development of the Mississippi River tributary projects and we appreciate so much your support.

I don't know if anybody has any questions. You got him where you want him now. [Laughter.]

RED RIVER WATERWAY, LA.

STATEMENT OF HON. J. BENNETT JOHNSTON, U.S. SENATOR FROM LOUISIANA

BENEFIT-COST RATIO CALCULATION

Senator JOHNSTON. It may look like I have him.

Mr. Chairman, I want to endorse everything my senior colleague says on the Red River Waterway project. These cost-benefit ratios of the Corps of Engineers are very broadly misunderstood by the people across the country and, even in Congress. The first thing that is misunderstood is that people don't understand how conservative they have been.

The actual facts and figures show that if you take all the cost-benefit ratios throughout history, look at their projected benefits, and then compare them with the actual benefits, the actual benefits exceed the projected or estimated benefits by 2½ to 1. Those are the facts. And you will almost never read that in the Sierra Club Journal. They try to obscure that fact, but that is a fact.

DISCOUNT RATE

The second thing that is not understood very well is the so-called interest rate. The interest rate that is used in a cost-benefit ratio is what they call a real interest rate, the premium you get for the use of money over and above inflation, because the cost-benefit ratio is neutral as to inflation. The benefits are not inflated. They are still using those old cost of fuel and they assume that the base costs of fuel is going to be the cost in the year 2000. By the same token, they don't inflate the cost except by that cost-benefit ratio which used to be 3¼ percent and now is 6⅞ percent. The point is neutral as to inflation.

If you want to give the real inflated figure as to what has actually happened to the cost of fuel and the cost of other things from which we benefit on the benefit side, we could bring that to a cost-benefit ratio to over 10 to 1, if you apply that inflation out over the years.

We are not proposing that we do that. But, at the same time, we want to be realistic about what those real benefits are.

Two other things about the cost-benefit ratio in the case of Red River—they excluded completely the hydroelectric benefits and they have excluded the recreational benefits. If you add those two things, it adds about 60 percent to the cost-benefit ratio. Those were not figured in and I think they should have been.

I talked to the White House people yesterday, I might tell my friends from Red River Association, and they indicated that there is not an indication of termination of the project. That there was some language that crept in to one of the rescission messages that spoke in terms of termination, but that was a mistake. It was unintended and that the administration does not support termination.

I was very glad to hear that. As my colleague said, we are perfectly willing to take our share of the medicine. But when I looked down a list of single-space, three pages of projects that are less than 15 percent complete and see them continuing, and when I look at the other projects that are even more expensive totally than this and see them continuing with only a slight cut. All we are asking for is equal treatment. And I think we will get that equal treatment, because in the end if you got a good case, your project is a good one, which it is here, if you are willing to be fair and support the balanced budget—nobody supported the budget any stronger than the Louisiana Senators, the Arkansas Senators, the Texas Senators—the Mississippi Senators are not part of Red River, but you are first cousins over there—but nobody supported it any stronger than we have done in our section of the country.

We will continue to support the balanced budget. And we are willing to give our share of blood; we will give our pint like everybody else. But don't open up the arteries and kill us. That is all we are asking. And I think by the time this outstanding group we have today finishes, I think the ball will be rolling for Red River Waterway.

Red River makes sense, not just for the part of Louisiana, Texas, and Arkansas that is served by it, but it makes sense to the country. There is no cheaper or fuel-efficient way of hauling goods than by barge. Everybody knows that. And if Red River made sense back in 1946 when it was first authorized when fuel was selling for 20 cents a gallon then, if it made sense when they started the groundwork when fuel was at 40 cents a gallon, then it sure makes a lot of sense now when fuel is $1.30 for a gallon and on the way up.

So, we have a good project here and an outstanding group of people to testify for us. Some of these people have been working on this project for a very long time and very effectively, and I am very glad to have them here.

Senator COCHRAN. Thank you.

Senator LONG. Could I make one more point. We simply would ask to be treated accordingly by the President and we will expect to treat anybody else the same way whether he came from Alaska or Maine or California or wherever.

I have been around here 32 years and I can't recall any instance in which a project that is under construction has been just stopped completely and all funds canceled out while others were permitted to go ahead. I don't know why someone would pick us out for an exemplary treatment. What have we done to deserve that?

I might tell you something. I would think that happened to Louisiana because somone sitting up there trying to cut the budget looked and saw, here is a project that had a lot of money involved—and this doesn't have anything to do with the benefit-cost ratio. And the greatest waste there is in Government is to start something and then stop it before a single useful segment has been completed. That is the greatest waste that there is. But someone looked down and said, "This project involves a lot of money. All the other projects don't involve a great deal of money in relative terms. This one is not as far along as the

Tennessee-Tombigbee. Let's cut these by 100 percent while we cut the others by a lesser percent." The very guy that did that wouldn't want us to do that to his pet item on that budget, and we would urge it not be done to us.

Senator COCHRAN. Senator Stennis.

Senator STENNIS. I want to support everything Senator Long and Senator Johnston have said. We are going to feel these years now when we have light construction anyway. They will be felt in the years to come. We will get back on the track.

I am impressed with what Senator Long said about the energy. Our dependence on energy, I think, is the gravest question before the Government today, dependence on foreign energy sources. It is something we absolutely must overcome and get away from. We will get the budget balanced and a lot of other problems, but this matter of remaining dependent on foreign sources for basic energy is the gravest of all, and we must overcome it. And nothing contributes more in this energy fight than low-cost transportation, waterways.

And throughout all the things that will happen, nothing has been any steadier than these waterways have been in these critical times we are in now—service day and night at very little extra cost per ton. And they have proven their worth in special ways in these critical times.

I thank you for your time.

Senator LONG. May I say, Senator Stennis, we people from Louisiana have not been fooled by the speeches and misleading arguments that people have tried to make where other people's projects have been involved. For example, somebody came to me and made the point, we ought to stop the Tennessee-Tombigbee. We have moved more dirt than when we built the Panama Canal. When the Panama Canal was built, they had not heard about a bulldozer, half the work had to be done by hand. The question is, Do the benefits justify the cost?

To come in here and use some argument and treat us to a standard of consideration that they wouldn't apply to anybody else in the Nation is not right, it is not fair, and people have learned, while we don't believe in doing business that way, sometimes we are compelled to treat them the way they treat us instead of the way they ought to be treated. We don't want to do business that way, and we hope it won't be necessary.

Thank you.

Senator COCHRAN. Thank you.

[Applause.]

Senator COCHRAN. The committee is honored to have with us Senator David Pryor of Arkansas.

STATEMENT OF HON. DAVID H. PRYOR, U.S. SENATOR FROM ARKANSAS

Senator PRYOR. Thank you very much, Mr. Chairman, Senator Johnston, and Senator Stennis. Every time I have to follow Russell Long on one of these occasions, I feel like a little minnow chasing after a bass. He is a great leader and eloquent spokesman for the cause of water development and proper use of our water resources.

I would like to thank the committee for allowing me the privilege of coming with the citizens of our home State of Arkansas and others, to offer a short word of testimony to this very distinguished committee in support of the public works appropriations bill which represents tremendous Federal investments in the public welfare and the future of this country.

INTRODUCTION OF WITNESSES

I am also extremely honored in particular, as I have been in the past 2 years, to appear with groups representing the Lower Mississippi River Valley Flood Control Association, the Ouachita River Valley Association, and the Red River Valley Association which, of course, has been discussed at some length this morning. Each of these citizen organizations, Mr. Chairman, render a tremendous public service, and I think on a lot of occasions they probably don't get the recognition they deserve. Most of them come to this town at their own expense, and I would like to associate myself with the remarks that their respective spokesman will make in support of these projects and their areas of concern.

IMPORTANCE OF WATER RESOURCE INVESTMENT

Mr. Chairman, we have an obligation, we have a responsibility, to see through to a conclusion, as best we can, our past commitments. It is, I think, one of the great investments in the productivity and in the future of America. These are difficult times for our country's economy, as we know. And I want you to know, Mr. Chairman, and members of this committee, that I don't think there is anyone in this room today, and especially this junior Senator from Arkansas, who envies you in the role that you must play in making the decisions of what areas, not necessarily to put in the budget, but those critical decisions of what to leave out.

Having been a Governor of a State in the past, I recognize how emotional and volatile some of these issues are and I also recognize that you are sitting in positions where on most occasions you have to say, "No." And I know how difficult those decisions are.

Like Senator Long, we are asking for your consideration. Our President is making an extremely strong effort to come to grips with the ravages of inflation and Government overspending.

The people who have come from the State of Arkansas and these surrounding States to testify are farmers, businessmen, and lawyers. They are people who live, work, and reside in the area of our county that must be benefited by the continuation of these projects.

I think that these people today, Mr. Chairman, understand what the President is saying. I think that they support what the President is saying when he addresses the Nation to advise of the planned reductions to programs across the board. I think you will recall the very steep reductions in the Corps of Engineers' budget for civil works that were undergone last year. This year, in addition to some very large specific cuts on some projects, this administration wants to reduce the funding to the Corps to effect a manpower reduction in the quantity of over 2,000 personnel spaces.

I believe, Mr. Chairman, that the President is going to be very successful in generating the support in the Congress and among the American people for most of his proposals. I think the people that are here this morning representing their various citizen organizations know and support the concept of reduced Federal expenditures to a very strong degree.

Mr. Chairman, I think that all of us want to see this committee act responsibly to honor the Nation's commitment to future generations, and it is in the water resources area that future generations are going to benefit most greatly. No President is ultimately responsible, in the positive or the negative sense, for the construction of projects, many taking 20 to 30 years from authorization to completion. They are representative of one generation's legacy to another.

Today, water is this country's most precious and also one of its most damaging resources. Many people fear for its future. Last year this country suffered it's worse drought in the last 20 years. This is one area of national interest where a stopgap, last-minute effort can serve us no constructive use. We must continue to plan ahead and we must continue to act ahead.

Mr. Chairman, as you and members of this committee listen to today's testimony, I hope and I know that you are going to be mindful of the differences in great land of ours and recognize that we have differing needs all across our Nation. But our investment in water resources is for the entirety of America, not just a little portion of America, and it makes us all that much stronger to face the future together united as one people and as one Nation.

I would like to close by saying, that without water—and I think all of us need to be reminded of this, I know the people in this room are ever-mindful of this fact—without water and the proper distribution of that water and the proper utilization of the resources that that water has to offer, that the dream of America is over.

And I thank the committee for allowing me to be here with those delegations representing my State and the contiguous States. Thank you.

Senator COCHRAN. Senator Pryor, thank you so much for being here and for your continued support and assistance in trying to develop a commonsense approach to flood control and navigation efforts in the lower Mississippi Valley and its tributaries. I know as a member of the other body, then Governor of your State, and now a U.S. Senator, you have been one of the key components of the effort to find solutions for these continuing problems and we appreciate your being here.

We have a number of persons who are here from the lower Mississippi River Valley. We want to welcome to the committee those who are here. We now ask that Mr. Boughton, who, we understand, is the spokesman for the group, to come forward with others who are going to testify in connection with the lower Mississippi Valley flood control projects. We understand that Mr. Burrell Fair, Mr. Joseph Mooney, and Mr. Arthur R. Theis are also here. If you would like for them to join you, that will be fine.

We have a copy of the prepared statements submitted to the committee and they will be made a part of the record in their entirety, and we encourage you to summarize or make any other statements that you would like to the committee. Because we do have a number of other associations represented here this morning, I will ask you to make your remarks as brief as you can and still get the message you came here to give us across. We don't want to cut you short. You may proceed.

Lower Mississippi Valley Flood Control Projects

STATEMENT OF H. A. BOUGHTON, VICE PRESIDENT, LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION, AND PRESIDENT, TENSAS BASIN LEVEE DISTRICT

Mr. Boughton. Thank you, Mr. Chairman. I am H. A. Boughton, president of the Tensas Basin Levee District of Rayville, La. I am also the State vice president for Louisiana of the Lower Mississippi Valley Flood Control Association and I appear here as their spokesman to present their views on the funding requirements for the Mississippi River and tributaries project for fiscal year 1982. I will present several items of general interest to all our membership and then call on others of our group to testify concerning specific items. Mr. Chairman, I assure you our presentation will be very brief.

We come before you this year supporting President Reagan's effort to slow down the increases in Government spending, therefore, we are, in essence, supporting the President's revised budget request for the Mississippi River and tributaries project with some minor exceptions, mainly in the planning activities of the Corps of Engineers.

MISSISSIPPI RIVER LEVEES

Our special concern, as always, is for the safety of the valley and I would like to briefly discuss the Mississippi River levees, which are the main line of defense against flooding for major portions of the seven States we represent. The Mississippi River levees are designed to carry the drainage of 41 percent of these United States and, because of the large geographical area involved, any deficiency of this system becomes a national problem. Studies made by the Corps of Engineers since the 1973 flood show that, because of an unexpected deterioration in the flood flow carrying capability of the Mississippi River, that deficiencies in levee heights do exist on both sides of the Mississippi River in the States of Louisiana, Mississippi, and Arkansas. In fact, after completion of all work now underway, some 425 miles of levees will still be below the required grade.

The ability to furnish the rights-of-way for a major levee raising is taxing the financial capabilities of many of our levee boards, but we want to assure this committee of our determination to see this project through to completion as rapidly as possible. Although the $25,550,000 in the President's revised budget is only about one-half of the Corps stated capability, we support this amount and request this committee to make available as a minimum the $25,550,000 to continue the necessary raising and strengthening of the Mississippi River levees and that this raising and strengthening be carried on as rapidly as possible.

CHANNEL STABILIZATION

We do believe that the channel stabilization program on the Mississippi River must be carried forward at the maximum speed possible to prevent further deterioration of the river channel and the resulting requirement for additional raising of main line levees. In fact, it is our hope that by increasing the stabilization work on the main channel of the Mississippi that the deterioration can be stopped. If the channel is allowed to continue to deteriorate, some of the completed flood control works on the tributaries may become ineffective. One such project would be the Yazoo Backwater Area, and there are others. Over 100 years ago, the Congress directed the Mississippi River Commission to "permanently locate and deepen the channel and protect the banks of the Mississippi River." We would hope that Congress would reaffirm the need to carry out this vital undertaking. We, therefore, request that the $59,100,000 in the budget, even though it is well below the Corps stated capability, be appropriated for channel stabilization in fiscal year 1982. These two items—channel stabilization and the main line Mississippi levee system—are the top priorities of our association.

There are other items in our request that deserve special consideration. Included, but certainly not limited to, are the St. Francis basin project in Missouri and Arkansas, the west Tennessee tributaries project, the upper Yazoo projects in Mississippi, and the Atchafalaya basin project in Louisiana. In all cases under Mississippi River and tributaries construction, we are requesting the amounts in the President's revised budget.

MAINTENANCE OF COMPLETED WORK

We request the $80,466,000 in the President's budget for fiscal year 1982 for the maintenance of the completed portions of the project. We cannot overemphasize the importance of properly maintaining these works so that they can function safely during times of major floods.

FUNDING REQUEST FOR UNBUDGETED ITEMS

Others in our group will speak briefly on other vital aspects of the project, so I will not cover those. I would like to state that the Lower Mississippi Valley Flood Control Association would request funds that are not in the President's budget for several items under the advanced engineering and design feature. These items are: St. John's Bayou-New Madrid floodway project in Missouri, Eight Mile Creek project in Arkansas, L'Anguille River basin project in Arkansas, Eastern Rapides and south central Avoyelles Parishes in Louisiana, and the harbor projects at Memphis, Tenn., Helena, Ark., and Vicksburg, Miss.

We believe these additional funds in the amount of $2,112,000, offset by a reduction of $765,000 in general investigation funds, are needed in order that the Corps of Engineers may keep their planning for these vital projects on schedule.

Our total requests for the Mississippi River and tributaries project for fiscal year 1982 is $273,557,000, a reduction of over $69 million from our request last year. A detailed tabulation of our request has been filed with the committee.

In closing, I would like to express to members of the committee our total faith in the ability and integrity of the Corps of Engineers, and we assure you that this association will continue to support and cooperate with the Corps and the Mississippi River Commission in their endeavors.

Mr. Chairman, I would like to express to you and other members of your committee our appreciation for this opportunity to appear before you and for the understanding and consideration you have always given our requests.

Although we have not requested additional funding for construction of the Mississippi River and tributaries project, we would certainly ask that this vital project be given every consideration if additional funding can be made available.

Mr. Chairman, with your permission, we will proceed with our other witnesses. We appreciate very much the committee's patience.

[The statement follows:]

STATEMENT OF H. A. BOUGHTON, PRESIDENT, TENSAS BASIN LEVEE DISTRICT

Mr. Chairman and distinguished Members of the Committee, my name is H.A. Boughton. I am the President of the Tensas Basin Levee District of Rayville, Louisiana. I am also the State Vice President for Louisiana of The Lower Mississippi Valley Flood Control Association and I appear here as spokesman for that Association to present their views on the funding requirements for the Mississippi River and Tributaries Project for Fiscal Year 1982. I will present several items of general interest to all our membership and then call on others of our group to testify concerning specific items. Mr. Chairman, I assure you we will be as brief as possible.

For the benefit of new members of the Committee who may not be familiar with our Association, it is an agency composed almost entirely of public bodies in parts of Illinois, Kentucky, Missouri, Tennessee, Arkansas, Mississippi and Louisiana. Our members are public officials who for the most part are elected by the people. Our Association has been serving the people of the Lower Mississippi Valley for 53 years, and we provide the means for all the prople of our great Valley to speak and act jointly on all flood control, bank stabilization, navigation and major drainage problems.

We come before you this year supporting President Reagan's effort to slow down the increases in Government spending, therefore we are in essence supporting the President's revised budget request for the Mississippi River and Tributaries Project with some minor exceptions, mainly in the Planning Activities of the Corps of Engineers.

Our special concern as always is for the safety of the Valley and I would like to briefly discuss the Mississippi River Levees which are the main line of defense against flooding for major portions of the seven states we represent. The Mississippi River Levees are designed to carry the drainage of 41% of these United States and because of the large geographical area involved, any deficiency of this system becomes a national problem. Studies made by the Corps of Engineers since the 1973 flood show that because of an unexpected deterioration in the flood flow carrying capability of the Mississippi River that deficiencies in levee heights do exist on both sides of the Mississippi River in the states of Louisiana, Mississippi and Arkansas. In fact, after completion of all work now underway, some 425 miles of levees will still be below the required grade.

The ability to furnish the rights of way for a major levee raising is taxing the financial capabilities of many of our levee boards, but we want to assure this Committee of our determination to see this project through to completion as rapidly as possible. Although the $25,550,000 in the President's Revised Budget is only about one-half of the Corps stated capability, we support this amount and request this Committee to make available as a minimum the $25,550,000 to contunue the necessary raising and strengthening of the Mississippi River Levees and that this raising and strengthening be carried on as rapidly as possible.

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There are other items in our request that deserve special consideration. Included, but certainly not limited to, are the St. Francis Basin Project in Missouri and Arkansas, the West Tennessee Tributaries Project, the Upper Yazoo Projects in Mississippi and the Atchafalaya Basin Project in Louisiana. In all cases under Mississippi River and Tributaries Construction, we are requesting the amounts in the President's Revised Budget.

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Eight Mile Creek Project in Arkansas,
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Eastern Rapides and South Central Avoyelles Parishes in Louisiana
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Mr. Chairman, with your permission, we will proceed with our other witnesses. We appreciate very much the Committee's patience.

LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION

FISCAL YEAR 1982 CIVIL WORKS BUDGET

MISSISSIPPI RIVER AND TRIBUTARIES APPROPRIATION

PROJECT AND STATE	LMVFCA REQUEST F.Y. 1982
GENERAL INVESTIGATIONS	
Hickman Harbor, Ky.	$ 50,000
Nonconnah Creek, Tenn & Miss.	75,000
Lake Neark, Arkansas	50,000
Boeuf-Tensas Basin, Ark. & La.	785,000
Helena and Vicinity, Ark.	135,000
St. Francis River Basin below Wappa Lake, Ark. & Mo.	415,000
West Memphis, Ark.	200,000
Graham Burke Pumping Plant, Ark.	-0-
Horn Lake Creek & Tribs., Incl. Cowpen Creek, Ms. & Tenn.	40,000
Yazoo River Basin, Miss.	965,000
Atchafalaya Basin (Water & Lane Resources), La.	400,000
Larto Lake - Saline Lake Area, La.	100,000
Collection and Study of Basic Data	240,000
SUBTOTAL - GENERAL INVESTIGATIONS	$ 3,455,000
ADVANCED ENGINEERING AND DESIGN	
St. John's Bayou - New Madrid Floodway, Mo.	$ 500,000
Eight Mile Creek, Ark.	275,000
Helena Harbor, Ark.	300,000
Miss. River, Memphis, Tenn.	400,000
L'Anguille River Basin, Ark.	350,000
Harris Fork Creek, Tenn. & Ky.	160,000
Vicksburg Harbor, Miss.	300,000
Eastern Rapides & South Central Avoyelles Parishes, La.	100,000
SUBTOTAL-ADVANCED ENGINEERING & DESIGN	$ 2,385,000
CONSTRUCTION	
Reelfoot Lake-Lake No. 9, Ky. & Tenn.	$ 100,000
*St. Francis River Basin, Mo. & Ark.	11,800,000
Boeuf & Tensas Rivers, Lake Chicot Pumping Plant, Ark.	17,500,000
Boeuf & Tensas Rivers, Except Lake Chicot Pumping Plant, Ark.	500,000
Mud Lake Pumping Station, Tenn.	350,000
*West Tennessee Tributaries, Tenn.	460,000
Yazoo Basin, Miss.:	(25,700,000)
Big Sunflower River	5,635,000
Greenwood	137,000
Grenada Lake	2,327,000
Main Stem	1,442,000
Sardis Lake	758,000
Streambank Erosion Control Evaluation	500,000
Tributaries:	
Except Ascalmore-Tippo & Oppossum Bayous	2,881,000
Ascalmore-Tippo & Oppossum Bayour	4,363,000
*Upper Yazoo Projects	5,600,000
Yazoo Backwater	2,057,000
*Atchafalaya Basin, La.	24,200,000
Bayou Cocodrie & Tribs., La. (Resumption)	400,000
Lower Red River-South Bank Levees, La.	700,000
Old River, La.	22,700,000
Tech-Vermilion Basins, La.	10,400,000
Tensas Basin, Ark. & La.:	
Red River Backwater Area Except Tensas Cocodrie Pump. Plant	800,000
Red River Backwater Area, Tensas Cocodrie Pumping Plant	6,200,000
Tensas River National Wildlife Refuse	-0-
Channel Improvement, Illi., Ky., Mo., Ark., Tn., Ms., & La.	59,100,000
*Mississippi River Levees, Ill., Ky., Mo., Ark., Tn., Ms., & La.	25,550,000
SUBTOTAL - CONSTRUCTION	$206,460,000
REDUCTION FOR SAVINGS & SLIPPAGE	-19,209,000
SUBTOTAL - CONSTRUCTION	$187,251,000
OPERATIONS AND MAINTENANCE SUBTOTAL	$ 80,466,000
GRAND TOTAL-MISS. RIVER & TRIBS.	$273,557,000

*Priority Projects

ST. FRANCIS BASIN PROJECT

STATEMENT OF BURRELL B. FAIR, CHIEF ENGINEER, ST. FRANCIS LEVEE DISTRICT

Mr. BOUGHTON. Mr. Chairman, our first speaker will be Mr. Burrell Fair, who is the spokesman of Arkansas and the State of Missouri.

Mr. FAIR. Mr. Chairman and members of the committee, I am chief engineer of the St. Francis Levee District of Arkansas. Today I am testifying in behalf of the St. Francis basin project. I am going to summarize briefly my statement.

This project has been underway since 1936 and in the 45 years since it started, has been very modestly funded. Much important work remains to be done.

This year we are requesting $11.8 million for the St. Francis project. This amount is included in the President's revised budget. In requesting this budgeted amount, we are attempting to express our support for the effort being made by the administration and by Congress to control Federal spending. The costs of our projects are out of control. This year, after the application of the increase due to inflation and the allowance for last year's appropriation, the amount required to complete the St. Francis project is substantially more than it was a year ago. The excessive cost escalation due to inflation will eventually undermine our cost-benefit justification. And we believe the stringent fiscal measures being taken now will result in greater future progress on the work we need.

We hope this will not be construed as an invitation to cut our funding more than other programs are cut. We are supporting the overall effort, so long as it is evenly applied across all phases of Government spending. However, if Congress decides to increase funds for water resource programs, we request our appropriate share. We are taking this simple approach in understanding of the tremendous task you have before you.

I am grateful for the opportunity to present this request to you and I am satisfied that it will receive fair and reasonable consideration.

Senator COCHRAN. Thank you, Mr. Fair.

[The statement follows:]

STATEMENT OF BURRELL B. FAIR, CHIEF ENGINEER, ST. FRANCIS LEVEE DISTRICT OF ARKANSAS

Mr. Chairman and members of the committee, my name is Burrell B. Fair. I live in West Memphis, Ark., and I am chief engineer of the St. Francis Levee District of Arkansas. The purpose of my testimony here today is to request the appropriation of funds for work in fiscal year 1982 on the St. Francis basin project. This project is under the heading, "Mississippi River and Tributaries," and includes work on flood control and major drainage outlets in the States of Arkansas and Missouri. This is an interstate project of great importance to large areas in both States and is totally supported by the drainage and flood control interests in the affected area. The project has been underway since 1936 and has been very modestly funded during the 45 years since it was started. Much important work remains to be done before completion.

We request that you recommend the appropriation of the sum of $11.8 million for the St. Francis project for fiscal year 1982. This is the amount which was included in the President's revised budget and is the amount included in the overall request of the

Lower Mississippi Valley Flood Control Association. In requesting the budgeted amount, we are attempting to express our support for the effort being made by the administration and by Congress to control Federal spending. The costs of our projects are out of control. This year, after the application of the increase due to inflation and the allowance for last year's appropriation, the amount required to complete the St. Francis project is substantially more than it was a year ago. The excessive cost escalation due to inflation will eventually undermine our cost-benefit justification. We believe the stringent fiscal yeasures being taken now will result in greater future progress on the work we need.

We hope this will not be construed as an invitation to cut our funding more than other programs are cut. We are supporting the overall effort, so long as it is evenly applied across all phases of Government spending. However, if Congress decides to increase funds for water resource programs, we request our appropriate share. We are taking this simple approach in understanding of the tremendous task you have before you.

I am grateful for the opportunity to present this request to you and I am satisfied that it will receive fair and reasonable consideration.

YAZOO BASIN PROJECT

STATEMENT OF JOSEPH F. MOONEY, CHIEF ENGINEER, BOARD OF LEVEE COMMISSIONERS, YAZOO-MISSISSIPPI DELTA LEVEE BOARD

Mr. BOUGHTON. Our next spokesman is Mr. Mooney from the State of Mississippi.

Mr. MOONEY. I have the privilege of presenting highlights from this statement and from one submitted by Newman Bolls, chief engineer for the Mississippi Levee Board, in behalf of the citizens of the Yazoo basin, a reach of about 200 miles long and up to 60 miles wide. We come supporting the President's budget in appropriating the $25.7 million for the Yazoo basin, knowing full well that the need for flood control is much greater than that and the Corps of Engineers' capability is much greater than that, but the people of our area support the necessity of trying to achieve a controlled budget.

We thank the committee and the Congress for what you have done over the years for us and we are confident that since you are so knowledgeable of the problems down there, that as the financial conditions of our country improve in the future, that you will once again invest at a more efficient rate in the protection of our valley. However, during these periods of necessary belt tightening, there are perhaps some things that we should look at. One is establishing priorities. So we would ask you to consider the priority of the upper Yazoo project; that is, the improvement of the Yazoo and Tallahatchie Rivers which virtually affects other elements of work, not only the Corps' work but local interest work in the Yazoo basin.

The other thing that we would like to suggest to the committee, as an area where we need some real help, is being able to assure that the funds that are appropriated are spent wisely and as efficiently as possible. We have two very severe problems in that respect. The application of the section 404 laws in our area are causing problems for us increasingly every year.

One place I would like to mention is in the right-of-way that the local people purchase these works. This is highly productive land when it is purchased, converted to borrow pits that serve a continuing levee purpose, and increasingly these lands are being looked at as potentially wetlands and treated by the stringent regulations and causes great difficulties for us and greatly increases the price of the work.

The other thing that I would like to bring to the committee's attention is the provisions of the disadvantaged and minority business groups. All of the current items in the Yazoo basin this year are going to be handled under the provisions of the AA. What this is going to require is that these projects be negotiated rather than by competitive bid and we feel very strongly this is going to itself result in very high prices for the work.

But, in addition to that, the Corps of Engineers is not going to accept a substandard product as a result of the application of the AA provisions to these items. So, this is going to mean they are going to have to expend tremendous amounts of personnel and financial resources to assure that we get the kind of quality of work that these projects, lives, and welfare require.

We are asking the Congress, if you would, in the process, not only appropriate money but do all you can to help us see that these funds are spent as wisely and as productively as possible. Give us as much hard project on the ground as possible with the money that is available.

Senator COCHRAN. Thank you very much, Mr. Mooney.

[The statement follows:]

STATEMENT OF JOSEPH F. MOONEY, JR., CHIEF ENGINEER, BOARD OF LEVEE COMMISSIONERS FOR THE YAZOO-MISSISSIPPI DELTA

I am Joseph F. Mooney, Jr. of Clarksdale, Mississippi, Chief Engineer for the Board of Levee Commissioners for the Yazoo-Mississippi Delta. I have the privilege of presenting highlights from this statement and from one submitted by Newman Bolls, Chief Engineer for the Mississippi Levee Board at Greenville, Mississippi. Both statements support the request of the Lower Mississippi Valley Flood Control Association for Fiscal Year 1982 Appropriations to the Mississippi River and Tributaries Project in the amount of $273,557,000 and address in particular, the appropriation of $25,700,000 for the Yazoo Basin portion of the project.

The gentlemen of this subcommittee who have heard us so graciously over the years can well understand our mixed feelings as we appear before you today. We come in support of the President's Budget for FY1982 knowing full well that the need for progress in flood control is greater than it ever was and that the Corps of Engineers has the capability of achieving a much greater rate of progress than the budget will permit. We also know full well that the leadership of our country must unite in the effort to control inflation and work toward a balanced budget. We conclude that every area and interest of our society must participate in this effort as though it were a war(it is a war of a special sort) and if for no better reason than to serve as a good example.

We are reassured that the subcommittee is highly aware that our basin is a fertile food basket producing abundant crops that feed and clothe our countrymen, as well as, contribute to our favorable balance of trade. You know also that the many small communities and light industries affected help to contribute to a very favorable benefit to cost ratio on the project. We are confident, therefore, that as financial conditions improve in the future, the

Congress will once again invest at a more efficient rate in the protection of our valley.

Meanwhile, belt-tightening anywhere requires that a careful look be taken to see that available funds are spent in the wisest and most productive ways and in accordance with the greatest priority. We respectfully offer information in this regard for your consideration.

We assign a very high priority to the Upper Yazoo Projects portion of the work in the basin and request that it be one of the first places that additional funds be allocated should any become available. The Upper Yazoo Project involves the enlargement of the Yazoo and Tallahatchie rivers and construction of levees along the banks of the rivers. On a map, the Upper Yazoo Project appears as the spine that supports the entire Yazoo-Flood Control system and is the primary outlet for the four hillside reservoirs and the eastern two-thirds of the Delta. Many very necessary and worthwhile items of work must wait in abeyance until the Upper Yazoo Project work progresses sufficiently upstream, and therefore, justifies assigning it priority status.

It has come to our attention that most of the items of work being funded this year in the Yazoo Basin have been designated for disadvantaged and minority business set aside. We understand that these items will be let without competitive bidding and to firms without demonstrated ability or techniques in flood control construction. Such conditions can only result in higher direct costs for each item of work some of which are relatively sophisticated and complicated. The Corps of Engineers will have to provide management and supervision to assure acceptable quality in the final product, thereby driving up the indirect costs of the work. Strict adherence to mandatory minority business set aside with the built in high costs, low production, and inefficient consumption of funds and manpower seems contrary to our present national goals.

We respectfully request that the Congress approve the FY1982 Appropriation of $273,557,000 for Flood Control, Mississippi River and Tributaries, as recommended in the President's Budget with $25,700,000 allocated to the Yazoo Basin.

Further, we respectfully request that the Congress direct that the funds be spent in the wisest and most productive manner consistent with our current national fiscal goals.

LOUISIANA FLOOD CONTROL PROJECTS

STATEMENT OF ARTHUR R. THEIS, CHIEF ENGINEER, OFFICE OF PUBLIC WORKS, LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

Mr. BOUGHTON. Our final spokesman is Mr. Arthur Theis from the great State of Louisiana.

Mr. THEIS. Mr. Chairman, Louisiana welcomes this opportunity to represent our views. I have a prepared a statement, which I will summarize.

I am Art Theis, chief engineer, Office of Public Works, Department of Transportation and Development, State of Louisiana. This association represents 23 levee boards charged with the responsibility of operating and maintaining flood control systems for Louisiana.

In discussing today's proposed budget, we are cognizant of the fact that the Federal Government is cognizant of the fact that the Old River Control Structure is probably the most important project in the entire Mississippi Valley and this complex has responsibility of maintaining the separation be-tween the Mississippi River and the Atchafalaya River, which we understand now as the highest priority item in the entire civil works program.

In addition to this program, we have other urgent needs that we would like to make you aware of.

Louisiana, as you know, lies at the bottom of this big funnel draining some 41 percent of the continental United Sates and part of Canada, right through our State and by most of your doorsteps. Most of the major part of the State, some two-thirds, is alluvial lands on which about 3.2 million of our 4.8 million of our population resides. It is imperative that we have an up-to-date and well-maintained flood control system in order that we can protect these people and all these businesses and organizations.

Over the last 53 years, the State of Louisiana has ably supported the Mississippi River and tributaries project and the concept that flood control systems must start upstream and proceed downstream. As a result of this method, Louisiana, being at the lower end, we are the last one to get the major flood control projects. Also, as a result of this, upstream States enjoy a higher degree of protection than we do. Our levee system, in general, is only about 80 percent complete. Which means we have a long way to go. And, in particular, the Atchafalaya basin, which must carry one-half of the designed flood waters. These are somewhat in the neighborhood of 50 to 65 percent complete. They urgently need a raising to get to the designed grade as soon as possible.

This risk was particularly highlighted by the 1973 flood when we had almost resulted in raising the design flowline through the Mississippi River basin. As a result of this, we found out our main stream is not quite as sufficient as we would like it to be. As a result, we had to change our design of the flowline and proceed to raise many hundreds of miles of levees. Some of your levees are as much as 6 feet too low. This calls for a tremendous enlargement program, and these enlargement programs are part of the responsibility of the State and we have to provide it at the cost of the State and not at the cost of the Federal Government.

We are attempting to provide local funds which would approximate $26 million over the next 2 years to buy these lands required for enlargement. We recently passed legislation in Louisiana to say we will pay fair market for all these lands taken for levee enlargement programs, and this is going to be a considerably costly program. The only area in Louisiana where we are not paying for enlargement is in the Atchafalaya basin where the Federal Government has the responsibility for that entire program for that floodway. We estimate that in the past year, as part of the program, that we have invested now in up-to-date dollars some $6 billion in flood control efforts that are spent by the State of Louisiana in participating. We think this is a valiant effort on our part to indicate to the Federal Government we want flood control.

Floods suffered in many parts of the Nation and also the drought in these recent times have indicated that we really need to look after our water resources development. Louisiana does enthusiastically support this budget that the President has indicated, and with cuts in the appropriate areas and also with increases for defense spending that we think are most appropriate.

We have thought about this budget problem and the efforts the President is making to balance the budget. We agree this is a worthy objective. At the same time, we would like to point out to the committee that water resources projects are probably the most worthwhile projects receiving Federal funding that have to stand very stringent cost justification studies that some other projects are not required to do. We ask, then, if there is any additional funding that, in the wisdom of Congress, we be allowed to have, that these be placed in certain priority items and we consider these priority items to be the Old River structure, but also the mainline Mississippi Valley levee, the Atchafalaya basin, where we have the lack of a system and the channel improvement. The channel improvements have always been made in the upper areas in the two main navigation areas and, as a result, some of our lower areas are only about 30 percent completed in terms of projecting the bank lines which all these people live behind.

We also have need for additional backwater area improvements and, thus, land that probably supported the agricultural needs of the Nation, and they have the highest priority in terms of agriculture uses and this area, such as the Yazoo backwater in Mississippi, is suffering from a lack of protection.

There are a number of projects that Congress has authorized in need of funding. There are a number of projects that are most vital to Louisiana in terms of navigation and water resources and, in particular, hurricane protection. As you know, our coastal area is very vulnerable to being flooded because of hurricanes. As a result, Congress has authorized programs for these kinds of hurricane protection projects, and particularly Lake Pontchartrain, that will provide protection to Metropolitan New Orleans and one of the largest ports in Louisiana and there are others, and below.

And we think that these projects should also be funded at the same level as the other areas so we can continue to provide that support and continue to provide that program to, hopefully, complete that project.

We appreciate this opportunity, Mr. Chairman, to present the brief remarks and we will be glad to answer any questions you may have to support our needs.

[The statement follows:]

STATEMENT OF ARTHUR R. THEIS, CHIEF ENGINEER, OFFICE OF PUBLIC WORKS, LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

The Louisiana Department of Transportation and Development, Office of Public Works, has been designated by Governor David C. Treen to represent the State in the planning and orderly development of our water resources. This statement is presented in behalf of the State of Louisiana and contains endorsements and recommendations for Fiscal Year 1982 appropriations for Louisiana items included in the Mississippi River and Tributaries Project.

In making the following recommendations, the State of Louisiana supports, in general, the budget recommendations of the President for Fiscal Year 1982. We agree that a balanced budget is a worthy objective, but at the same time point out that water resources projects are probably the most worthwhile projects receiving federal funding and have to stand cost justification studies other projects are not required to undergo. We ask that this fact be considered when the final funding decisions are made, and should additional funds above the budgeted amount become available, we request the following priority list be followed:

(1) Old River
(2) Mississippi River Levees
(3) Atchafalaya Basin
(4) Channel Improvements

MISSISSIPPI RIVER AND TRIBUTARIES
SUMMARY OF RECOMMENDED APPROPRIATIONS

ITEM	BUDGET ALLOWANCE AND LOUISIANA REQUEST
Atchafalaya Basin, LA	$ 24,200,000
Bayou Cocodrie & Tributaries, LA	400,000
Channel Improvement, AR, IL, KY, LA, MS, MO & TN	59,100,000
Eastern Rapides & South Central Avoyelles Parishes, LA	36,000
Mississippi River Levees, AR, IL, KY, LA, MS, MO & TN	25,550,000
Old River, LA	22,700,000
Teche-Vermilion, LA	10,400,000
Tensas Basin, AR & LA	25,500,000 *
STUDIES	2,115,000
OPERATION & MAINTENANCE	60,999,000

* Represents funding request in excess of budget recommendation.

NOTE: Listed above are only those items in Louisiana and directly affecting the State. We realize that there are others outside of Louisiana that are vitally important to the Project and we endorse the recommendations of the Lower Mississippi Valley Flood Control Association.

LOUISIANA PRIORITIES FOR FUNDS WHICH MAY BE APPROPRIATED ABOVE THOSE IN THE PRESIDENT'S BUDGET FOR FISCAL YEAR 1982

OLD RIVER, LOUISIANA
(Budget and Request: $22,700,000)

This project is recognized as the number one priority item in the entire civil works program. The Old River project prevents the Mississippi River from changing its course to the Atchafalaya. Should this occur, the cities of Baton Rouge and New Orleans and many lesser communities would suddenly be without sufficient quantities of fresh water for domestic and industrial needs. A large investment by the United States in flood control and navigation facilities would be lost. Since the project is one of the Main Stem components for flood control on the Mississippi River, it is inseparable from the other components when calculating a composite benefit-to-cost ratio for the Main Stem project. The benefit-to-cost ratio for the main stem computed for the base estimate was 7.85 to 1, but the remaining benefit-cost ratio is 16.5 to 1, or more than $3 Billion in benefits through flood control, navigation, area redevelopment and recreation. The requested amount of $22,700,000 will complete the initial excavation, mainline levees and lower guide levee for the auxillary structure as well as complete the radar towers and picket boat facilitiy at the low-sill structure. The funding will also continue the engineering and design for the auxillary structure and cover supervision and administration for the project. Since it is of the utmost importance to complete this project on schedule and the funding requested in FY 1982 is only the minimum necessary to meet the presently scheduled completion dates, we request that any additional funding above the President's budget that becomes available be applied first to this important project to insure timely completion.

MISSISSIPPI RIVER LEVEES
(Budget and Request: $25,550,000)

The Mississippi River Levees Project is also a Main Stem component in the plan for improvement of flood control on the Mississippi River. As stated before in reference to the Old River Project, the Main Stem components are inseparable when computing cost-to-benefit ratio, which in this case is 16.5 to 1 (remaining costs to remaining benefits) or approximately $3 Billion in total benefits. The levee system provides protection to 23,600 square miles and partial protection of an additional 3,780 square miles in the alluvial valley subject to flooding from a Project Flood. In addition to the highly developed and productive agricultural areas, the levees afford protection to many large and varied industries as well as important urban areas. The funds requested for FY 1982 will continue levee enlargement work and relocations underway for the project but are only the minimum funds necessary to meet the presently estimated completion date. The revisions in the flow line necessitated by flows and stages experienced in the 1973 Flood indicate how imperative it is that the levee enlargment and berm work be completed as early as possible. Therefore, we recommend should any funding above the President's recommendation become available, this project be given consideration second only to that of Old River in the appropriation of such funds.

ATCHAFALAYA BASIN
(Budget and Request: $24,200,000)

This project is also a Main Stem component of the flood control plan for the Mississippi River and Tributaries. The Mississippi River can safely carry only 1,500,000 cubic feet per second below Old River. The Project Flood is of such magnitude that 3,000,000 cubic feet per second will pass the latitude of Old River, therefore, one half of this projected flow must be discharged through the Atchafalaya Basin. The levees which must confine this flow to the basin are now deficient due to consolidation of the underlying soils. The lives and welfare of 650,000 people and their property and improvements in 13 parishes in the immediate vicinity of the Atchafalaya Floodway are placed in jeopardy each flood year. The tax assessment records indicate values of potential flood losses of approximately $8 Billion not including public improvements. Funding requested is the minimum needed in FY 1982 to meet the presently estimated completion dates. We, therefore, recommend that this project be given priority number three for the appropriation of any funds that become available over and above the amount the President has recommended.

CHANNEL IMPROVEMENTS
(Budget and Request: $59,100,000)

Channel improvements and stabilization provide protection of levees and the many improvements behind them, as well as preventing unsatisfactory alignment where the river's bank is unstable. This project is also a Main Stem component of the flood control improvement program for the Mississippi River and the benefits are the same as for the other main stem components. The Mississippi River and Tributaries Project above Old River is about 80 percent complete but only about 30 percent complete below Old River. Because of the improvements upstream, increased flows are a major problem in Louisiana where the project is lagging. Much of the appropriation for this item in FY 1982 will be spent in the lower end of the project, the area of the greatest need. We, therefore, concur with the President's budget recommendation and request that should additional funds above the President's request become available, this item should be considered priority four in the appropriation of these funds.

TENSAS BASIN
(Budget: $25,000,000 Request: $25,500,000)

The requested increase of $500,000 over the budgeted amount for this project is needed to commence construction of the Sicily Island Levee in the Red River Backwater area.

The construction of the Sicily Island Levee was approved by the Chief of Engineers under authority granted to him by the Flood Control Acts of May 15, 1928, and August 18, 1941, and the project was amended and confirmed by the Flood Control Act of October 27, 1965. Numerous public hearings have been conducted and the project features have been redesigned to eliminate objectionable features unearthed by the most intense and detailed scrutiny. The questions raised as to the authority for original approval have been resolved and the General Design Memorandum has been approved.

There is no reason to further delay the construction of this worthy project. We urge the addition of $500,000 to the amount budgeted for the Tensas Basin Project so that Item 1 of the Sicily Island Levee can be constructed.

LOCAL CONTRIBUTIONS FOR FLOOD CONTROL IMPROVEMENTS

Historically, Louisiana has always done its part in cooperation with the Federal agencies concerned with flood control. The Louisiana State Board of Engineers, the forerunner of the Office of Public Works, was created in 1879 the same year as the Mississippi River Commission to coordinate the planning and construction of the required flood control facilities to protect the State. Since that time, local expenditures for flood control have exceeded $729,000,000. This amount adjusted to 1979 dollars represents expenditures in excess of $5.3 Billion. Nearly one-half of the potential flooded area of the Lower Mississippi River Valley lies in Louisiana. Local expenditures for flood control have increased with the growth of the valley. This record not only meets, but exceeds any National Water Policy local participation requirements ever put into practice.

The State of Louisiana, its Office of Public Works, in particular, wishes to commend the Appropriations Sub-Committees on Energy and Water Development and express our appreciation for the foresight and understanding exhibited in the past of the need for authorizing adequate levels of appropriations for water resources projects which are vital to the national interest. We solicit your further consideration of the recommendations presented herein.

The Louisiana Department of Transportation and Development, Office of Public Works, is the agency designated to represent the State of Louisiana for the coordinated planning and development of water resources including flood control, navigation, drainage, hurricane protection, water conservation, and irrigation projects. Therefore, this statement is presented on behalf of Governor David C. Treen and the State of Louisiana. We are pleased to present endorsements and recommendations for Fiscal Year 1982 appropriations to Louisiana projects. The projects listed herein are not contained in other separate statements by the Office on the Red River Basin or the Mississippi River and Tributaries.

In making the following recommendations, the State of Louisiana concurs in and supports the President's Budget recommendations for Fiscal Year 1982. These recommendations are made not because the projects are unworthy of higher funding levels, but because we agree that a balanced budget is a worthy objective and is in the best interests of the country at this time. However, we also feel that water resources projects are probably the most worthwhile and cost-effective projects in the Federal budget, having to meet stringent economic justification criteria not required of other programs. We ask that this be taken into consideration in the final decision making process to allocate the available funds.

PROJECT	BUDGET ALLOWANCE AND LOUISIANA REQUEST
CONSTRUCTION:	
Aquatic Plant Control	$ 500,000
Atchafalaya River, Bayous Chene, Boeuf and Black	10,000,000
Grand Isle and Vicinity	1,955,000
Lake Ponchartrain and Vicinity	15,000,000
Larose to Golden Meadow	9,900,000
Mississippi River, Baton Rouge to the Gulf	4,400,000
Mississippi River, Gulf Outlet	2,550,000
New Orleans to Venice	2,350,000
Ouachita & Black Rivers	24,500,000
Vermilion Lock	7,400,000

PROJECT	BUDGET ALLOWANCE AND LOUISIANA REQUEST
SURVEYS:	
Gulf Intracoastal Waterway, LA & TX Section	$ 620,000
Louisiana Coastal Area	150,000
Mermentau-Vermilion, & Calcasieu Rivers & Bayou Teche	220,000
Miss. River Nav. System-Adequate Mooring Facilities for Watercraft	295,000
Ouachita River Basin	1,000,000
Pearl River Basin	825,000
OPERATION AND MAINTENANCE:	
Atchafalaya River, Morgan City to the Gulf	6,953,000
Barataria Bay Waterway	1,710,000
Bayou Teche	303,000
Bayou Teche and Vermilion River	43,000
Calcasieu River and Pass	10,630,000
Freshwater Bayou	1,610,000
Gulf Intracoastal Canal	11,838,000
Houma Navigation Canal	1,635,000
Lake Providence Harbor	160,000
Madison Parish Port	171,000
Mermentau River	3,048,000
Mississippi River, Baton Rouge to the Gulf	26,073,000
Mississippi River, Gulf Outlet	7,089,000
Mississippi River Outlets, Venice	3,450,000
Ouachita and Black Rivers	3,690,000
Removal of Aquatic Growth	1,333,000

We wish to express our thanks to the Appropriations Sub-Committees on Energy and Water Development of the House and Senate for allowing us to present this Brief on the needs of the State. Without reservation, practically every single project in Louisiana, which has been made possible through actions of these Committees, has shown a return in benefits many times in excess of that contemplated by the authorizing investigation. The projects which you fund affect the economy of not only Louisiana, but the Nation as a whole. The Office of Public Works appreciates accomplishments of the past and solicits your consideration of the appropriations requested for Fiscal Year 1982.

IMPORTANCE OF PUBLIC INPUT

Senator COCHRAN. Thank you, Mr. Theis, Mr. Boughton, Mr. Fair, and Mr. Mooney for helping the committee the way that you have this morning with your testimony.

First of all, I want to congratulate you on the way in which you approach your task in that you have looked at the projects that you are interested in and tried to give the committee some guidance about relative importance. And this is very helpful to the committee. There have been some groups who have come to Washington earlier in the face of the necessity to try to hold down spending and cutback where it is possible, and have said to some of our committees, "We want you to pick and choose among the programs and we want to say whether we would *like to see a cut here or there.*"

You have taken the responsibility that you have very seriously and I appreciate it very much. For instances, in Mr. Mooney's testimony he indicates that the upper Yazoo project should take precedence and be considered a priority over the lower Yazoo project. This takes some courage. We appreciate that because we have a lot of interest and concern, legitimate concern, in other areas in our State and I know those of you from Arkansas and Louisiana have the same problems.

We recognize the importance of all of them. We are going to try in every way possible to meet all of the needs that we have. But resources are limited. And we are going to have a hard job before us, but we are going to work together and you being here has been quite helpful.

I was particularly impressed on the fact that you focused attention on ways that the Government can help improve the efficiency of the work we are doing in flood control. The section 404 permit program is a good example of the way we can reassess how the Government goes about doing the job and see if we can't save some money. But, identifying the most costly is that which has to be taken in mitigation, for instance, or suggesting that you can't fill in what some construe as wetland, but you have to dump the dredged material on your better land and, therefore, run up the cost of dredging. These are areas that I think deserve the attention of the Congress and you mentioning them, I think, helps focus attention on the need to reassess the way the Government is going about doing its business.

This committee does not have jurisdiction over changing the legislation in that permit program, but I think we have an obligation to speak out when that matter is before the Senate and offer testimony before the legislative committee, if that seems indicated, to point out how we are running up the cost of these products by some of the other requirements, rules, and regulations that we have.

An essential part of the economic program as has been presented by President Reagan is the impact analysis that is being required of Federal agencies now. We have all heard of environmental impact statements having to be considered by agencies, but now economic impact statements will be required. And this is an essential part of the economic effort because Government has really added to the cost of all goods and services by its regulatory process. One hundred billion is the figure that has been used as the cost this year of complying with Government regulations and the 404 permit program is a good example of how regulations and rules escalate the cost and are inflationary.

When we support the program, I think we ought to do more than just cut the budget. We ought to see legislative action consistent with Presidential recommendations that will help reduce the cost of Government regulations. That is a very important aspect of this entire effort. Of course, the tax reform effort and the monetary policy changes and the attack on fraud and waste are also part of the economic recovery effort, and we have an obligation to work hard in those efforts, too, and not just focus all of our attention on cutting the budget

That is the opinion of this Senator and I think that is generally the sentiment here in the Senate as well as the other body.

I didn't mean to get carried away and make a speech there. [Applause.]

Senator Johnston, do you have anything?

Senator JOHNSTON. I would like to join you in congratulating this outstanding panel, particularly Mr. Boughton, who is the new chairman of the Louisiana Levee Board Association, an outstanding man. Art Theis, chief engineer, I believe, of the Louisiana Department of Public Works, which has very high standards of excellence and professionalism. We are really proud of the Louisiana Department of Public Works.

Let me respond to a couple of things that were mentioned by the panel. First with respect to section 404 permits, I introduced legislation, I guess it has been 3 years ago, with one of my House colleagues, John Breaux, to try to do away with what I think are very expensive and counterproductive requirements under section 404 with respect to not only where you put the spoils, but with respect to what you can levee off. The land that is not wetland is not backwater area it is potentially good farming land and we are prevented from using a lot of our good farming land unnecessarily so.

I think the time is right to come back with more legislation. We were not successful last time, but I think the time may be right now. A new mood is sweeping the country of antiregulation and I think it is time to focus on that section 404 again.

OLD RIVER CONTROL STRUCTURE

Next, with respect to Old River, that is the one project I am pretty confident about. I think we caught their attention. The Carter budget included the Corps' full capability, and that has also been included in the Reagan budget. We are going to build that structure at Old River just as fast as they can possibly do so, and I am confident of that. I wish I was as confident of these other projects.

I understand that you all are making very good progress in acquiring right-of-way on the Red River Waterway project. But you have responsibility for acquiring that and that is coming along very quickly. Isn't that right?

Mr. THEIS. Yes, sir.

Senator JOHNSTON. Where you have the right-of-way for lock and dam No. 2, when would you have that?

Mr. THEIS. We anticipate having it on schedule, April of this year. As far as we are concerned now, we would try to meet that schedule. We realize there may be some changes as a result of the President's budget and whether or not the Corps will let the contract this summer remains to be seen, but we are still working toward the same schedule that we had before the budget cuts were indicated.

Senator JOHNSTON. I am glad to hear that. Thank you.

Senator COCHRAN. Senator Stennis.

Senator STENNIS. Let me say this to you people in Louisiana, I heartedly agree with what you said, as I understand it, and what Senator

Johnston said about the importance of the Old River project. I remember years ago first hearing about that, the proof you put in here, and I was impressed. I not only support it, but I am proud and pleased that you are making the headway on it that you are. That makes me think, too, of the late Senator Ellender of Louisiana, one-time chairman of this subcommittee, and later chairman of the full committee, too. No one could beat him. Very thorough and exhausting; demanding, too, when he took out after those projects. That work will live a long, long time. He visited most of the States every year and I am glad to speak of him as a coworker. He passed away awhile back, then here came Senator Johnston and settled in here and went to work—before long all of us have had our work cut out in trying to keep up with the fellow. He became a valuable member on this subcommittee.

I was chairman of the subcommittee at one time and I left that position with the understanding, repeatedly, for him never to give it up. [Laughter.]

"Never" was the word I used.

Senator JOHNSTON. I didn't give it up, Mr. Chairman.

Senator STENNIS. The Defense Subcommittee came later. Now, all of a sudden here last November I heard that Bennett Johnston said he would give up the chairmanship. [Laughter.]

We say these things in fun, but this subcommittee has worked together, really worked together over the years. I have been on the Appropriations Committee now a good while, and have gotten down into the very bowels of all of the departments. But this work, the work on these waterways and water resource projects, is the most constructive and the most lasting good of all the activities, all the departments that I have ever gotten into. There is more strengthening of the economy, the improvement of the ease of making a living, and more taxes generated that is paid into the Federal Treasury through these expenditures than any other program of the Government.

I am very very pleased that all of you say you yield to the reductions made in the Reagan budget. I think that is a wise step, but I hate to see it happen, because I don't think we have any time to lose, particularly in this field of energy and transportation costs, in strengthening our economy and making it less dependent on other areas of the world for energy, for military protection, and for the lifeblood of our economy.

Just as soon as we can, I hope we can get back on the track of full steam ahead and make these projects move.

I thank you very much for this time. Certainly we will, and I believe this whole committee will be backing these projects.

That brings to mind, too, the new chairman of the Appropriations Committee, just a word about him to you. Senator Hatfield of Oregon, just as far west as you can go, he is solid and strong, and he is determined that these water projects continue to move forward. He appreciates fully their meaning to the whole country, to the economy. We have a strong ally in him.

Thank you.

Senator COCHRAN. I might add that Senator Hatfield asked me this morning to convey to all of you his regrets for not being able to be here to personally chair these subcommittee hearings. He is the chairman of the full Appropriations Committee as well as being the chairman of this Energy and Water Development Subcommittee.

As Senator Stennis said, he is a friend of the water program. Also, the acting chairman this morning is a friend, indicating that it is not always good to put all your eggs in one basket. [Laughter.]

Not too long ago, I read a book entitled "The Natural Superiority of the Southern Politician." I don't know if it is accurate.

Senator JOHNSTON. The title?

Senator COCHRAN. But the wisdom of the people of the South may be superior.

We appreciate all of you being here. Thank you so much for helping the committee the way that you have.

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

Before we conclude, and if there is no objection, I want to make part of the record the additional prepared statements that you have submitted in support of the various projects in the Lower Mississippi River Valley area.

[The statement follows:]

STATEMENT OF GRAY EVANS, SECRETARY-TREASURER, LOWER YAZOO RIVER BASIN DISTRICT

I am Gray Evans, an attorney from Greenwood, Mississippi and am Secretary-Treasurer of the Lower Yazoo River Basin District in Mississippi.

I am pleased to present this statement on behalf of the Lower Yazoo River Basin District in Mississippi.

The Yazoo River Navigation Project, authorized by Congress in the 1968 Rivers and Harbors and Flood Control Act, provides for improving the navigable waterways of the Yazoo River from its mouth on the Mississippi River to the river port of Greenwood, approximately 100 miles upstream. The recommended plan of improvement calls for a channel with a 9-foot depth and 150-foot minimum bottom width between the mouth of the river and Greenwood. The physical features include a lock and dam near the mouth, channel realignment and dredging, raising the control structure at the upper end, and modification of Sardis Reservoir to provide additional storage capacity of water supply for navigation, and bridge alterations.

This project is necessitated by the tremendous increase in river traffic on the Yazoo River in recent years serving the Mississippi Delta. While the demand for river transportation has increased, the water level in the river is sufficient less than 50 percent of the time to accommodate a modest amount of this traffic. The industry and agriculture that would otherwise utilize the river are forced to turn to more expensive surface transportation. The savings to agriculture and industry which will result from this project will be great. These benefits were foreseen by the Congress in approving this project in 1968.

The reasons for initiating the project now are even more compelling than they were in 1968. Delays in completion will no doubt increase the cost of the project and impede industrial and agricultural growth and development of the area which the project will serve.

The Lower Yazoo River Basin District has in excess of $1,000,000.00 available for acquisition of rights of way, etc., and we are anxious to get this project completed. In addition to the navigational benefits which will result from the project, tremendous recreational opportunities will be afforded to the people living in this area.

In FY 1981 we received for Engineering and Design the sum of $450,000.00 plus Advance Participation for the Belzoni bridge, which is a part of the project, in the sum of $660,000.00. The President's budget for FY 1982 contains a figure of $600,000.00 for Engineering and Design and a figure of $2,800,000.00 for the Belzoni bridge. The Corps of Engineers has the capability for these amounts. In fact, Lower Yazoo River Basin District has purchased the necessary rights of way for the construction of the new Belzoni bridge and has made entry available for the letting of the contract for construction on April 28, 1981.

STATEMENT OF COMMISSIONERS OF L'ANGUILLE IMPROVEMENT DISTRICT NO. 1 OF ARKANSAS

This Improvement District was legally constituted in December of 1979 and a letter of intent to sponsor the L'Anguille River Project was provided to the Memphis District Corps of Engineers on January 14, 1980. There is a dire need for flood relief along the L'Anguille River in Cross, Woodruff, St. Francis, and Lee Counties in Arkansas, wherein there is contained some 380,000 acres that are affected within the proposed district.

Congress appropriated $150,000 for the first year planning and the Memphis District Corps of Engineers has expressed a capability of $350,000 for the 1982 fiscal year. It is important that this money be appropriated for the Corps to continue its re-study efforts of this previously authorized Project.

There is a somewhat unique problem in the L'Anguille River Basin that occurs because of late spring and summer flooding that prohibits or delays the planting of crops, as well as late summer and fall flooding that prohibits or delays the harvesting of matured crops. There have been numerous instances over the past three years where entire fields of matured crops have rotted because harvesting was impossible. The Commissioners for the Improvement District have the full support of the entire Arkansas Delegation who represent this District, both Senators Bumpers and Pryor and Congressman Alexander.

If this re-study effort is not completed and plans implemented to prevent the duration of flooding in the L'Anguille River Basin area then there will be an enormous loss of soil through erosion and washing, as well as unmitigated damage to woodlands and wildlife habitats, therefore the Commissioners of the L'Anguille Improvement District No. 1 of Arkansas urge the appropriation by Congress of $350,000 for fiscal year 1982 in order to fund the expressed capability of the Corps.

STATEMENT OF LARRY D. DOWDY, MAINTENANCE SUPERVISOR, LITTLE RIVER DRAINAGE DISTRICT, MISSOURI

My name is Larry D. Dowdy, Maintenance Supervisor of The Little River Drainage District. Our District is a political subdivision of the State of Missouri with its chief office at Cape Girardeau. This District was incorporated in 1907 and affords flood protection for more than 1.2 million acres of farmland as well as providing drainage facilities for almost 2.0 million acres of lands throughout Southeast Missouri.

Our District lies at the North end of the St. Francis Basin, through which our waters must flow through Arkansas to the St. Francis River and then on to the Mississippi River near Helena, Arkansas.

In 1936 the St. Francis Basin Project was authorized by Congress as a part of the MR and T Project. Its cost-benefit ratio then was 2:6:1 and today with the area becoming more progressive than ever, both agriculturally and industrially, has a cost-benefit ratio of 3:4:1.

We believe an accelerated construction of this project would relieve the annual disasterous floodings caused by inadequate drainage and would be a wise investment in the development of the abundant natural resources of this area.

In 1973 the largest flood of record occurred in this area which evidenced the benefits of the completed works and demonstrated to us what benefits would have been realized had the St. Francis Basin Project been completed. Much damage was averted because of the works completed but damages occurred which could have been avoided had this project been finalized.

The Corps of Engineers capabilities are greater than our funding request for this Project as well as the MR and T Project.

Our District strongly urges this Committee to authorize full funding of the St. Francis Basin Project amount of $11,800,000 and for the MR and T Project amount of $273,557,000 as requested by The Lower Mississippi Valley Flood Control Association. The St. Francis Basin amount represents a 30% reduction of the amounts appropriated last year and the MR and T amount is a reduction of about the same per cent.

We support the requests made by other witnesses from the Association and trust their request likewise will be given serious consideration.

Our District appreciates the support and courtesies extended to it by this Committee in the past and for today's opportunity to appear before you to make our request known.

STATEMENT OF NEWMAN BOLLS, CHIEF ENGINEER, BOARD OF MISSISSIPPI LEVEE COMMISSIONERS, GREENVILLE, MISS.

I am Newman Bolls, Chief Engineer, Board of Mississippi Levee Commissioners, Greenville, Mississippi. This Board offers its support to the recommendations for appropriations for the Mississippi River and Tributaries Project for FY1982 as presented by the Lower Mississippi Valley Flood Control Association. We offer specific recommendations for projects within the Yazoo Basin for which we urgently request $25,400,000 for FY1982.

Listed below is the President's budget for FY1982 which we support and respectfully request be appropriated for this vital work:

YAZOO BASIN, MISSISSIPPI

Big Sunflower	$ 5,635,000
Greenwood	137,000
Grenada Lake	2,327,000
Main Stem	1,442,000
Sardis Lake	758,000
Stream Bank Erosion Control Evaluation	500,000
Tributaries:	
Except Ascalmore-Tippo-Opossum	2,881,000
Ascalmore-Tippo-Opossum Bayous	4,363,000
Upper Yazoo Projects	5,600,000
Yazoo Backwater	2,057,000
Total Yazoo Basin	$ 25,700,000

The program that we have so long supported is not a giveaway or a welfare scheme but is one of capital investment that repays to our national and world economy many times the original investment and, in reality, provides greatly added sources of income and products that makes many of these social programs possible. The Yazoo Basin without question is one of the most highly productive agricultural areas in the world and with the gloomy forecasts of impending world hunger, it will be very shortsighted to stall the development and protection of this region that has such worldwide importance. The startling statistic that over 3,000,000 acres of arable land is being removed from productive use each year for the construction of roads, buildings and other commercial uses places an even greater burden on the remaining productive land. A recent study made by the Mississippi Research and Development Center shows that in the two principal counties in the Yazoo Backwater area, Sharkey and Issaquena, the value of their farm produce was 1.65 times the national average on a per-acre basis, further emphasizing the value of this land and its productive capacity.

We who have the opportunity and privilege now of protecting and providing for the future must exercise every available means to preserve these great natural resources of land and water so that the generations that follow will have a sufficiency of these two precious resources.

A short summary of the principal features of Yazoo Basin Projects will demonstrate the need for continuation of these improvements at a reasonable rate.

A. Yazoo Headwater Project is designed to control the runoff from the hills and pass it safely through adequate outlets to the Mississippi River. The various components of this project are:

1. The Hillside Reservoirs: Arkabutla, Enid, Grenada and Sardis whose flood control value is without question.

2. Main Stem which provides for levees and other structures along the Yazoo River. The most critical item is the Wasp Lake Closure which is desperately needed to protect Belzoni, Mississippi.

3. Tributaries Items which include Ascalmore-Tippo and Opossum Creeks. These items furnish flood control and drainage to a vast area in some five counties and include such urban areas as Marks and Lambert.

4. Greenwood provides for protection works around the City of Greenwood.

B. Upper Yazoo Projects is the improvement of the main channel of the Yazoo-Tallahatchie-Coldwater Rivers to provide adequate outlet for the entire upper Delta region of Mississippi.

C. Yazoo Backwater Project protects a 1,000,000 mile area in the extreme south end of the Delta from backwaters from the Mississippi and Yazoo Rivers. This project was authorized in 1941 and is still not complete. The most critical feature of this project is the Pumping Plants. It is imperative that the study be completed and that construction be initiated to protect this area.

D. Big Sunflower River Project presently consists of channel improvements on Steele Bayou, the only outlet for drainage in the extreme western side of the Delta and is the only source of drainage for Greenville, Mississippi with a population of over 50,000.

E. Stream Bank Erosion Control deals with the development of and demonstration of effective measures for controlling erosion resulting from heavy hillside runoff into the Delta.

We in the Yazoo Basin have always prided ourselves as being patriotic self-sacrificing citizens. This is evidenced by the vast expenditures of local taxes to support and finance the critical flood control and drainage problem so greatly affecting our area. We feel that we are again demonstrating this patriotic characteristic by not appealing for additional funds but are supporting the President's budget. We are very aware of the urgency to contain the destructive spiral of inflation and return to a balanced budget. The failure to do so will mean the utter collapse of America and with it, the free world. We are willing to do our part. We are agreeable to well-thought-out reductions that will not jeopardize the overall economy and effort and ask only that we be treated fairly.

We are grateful for the careful consideration you have always given our requests and wish to thank and commend you on the difficult job you have always done so well in providing funds for these most beneficial projects.

STATEMENT OF JAMES R. BURCHFIELD, JUDGE, CHICOT COUNTY, ARK.

Mr. Chairman:

There is a sizeable delegation here today who are extremely interested in the continued funding of the Lake Chicot Restoration Project. (A line item in the Boeuf-Tensas water-shed).

We would like to request that the U. S. Corps of Engineers' stated capabilities of $17,500,000.00 for fiscal year 1982 be funded.

This delegation is extremely pleased with the way your committee has funded this project since its authorization back in 1968, and your continued favorable recommendations will be greatly appreciated.

SUBCOMMITTEE RECESS

Senator COCHRAN. The committee will stand in recess for 5 minutes.

[Whereupon, a 5-minute recess was taken.]

OUACHITA RIVER BASIN PROJECTS

STATEMENT OF LLOYD PLATT, EXECUTIVE OFFICER, OUACHITA RIVER VALLEY ASSOCIATION

Senator COCHRAN. The hearing will come to order. Our next witness is Mr. Lloyd Platt, who is the executive officer of the Ouachita River Valley Association.

Welcome to the committee, Mr. Platt. We have a copy of your statement which you furnished to us. We appreciate having that and at this time, without objection, we will make your statement a part of the record and invite you to proceed as you wish.

[The statement follows:]

STATEMENT OF LLOYD M. PLATT, EXECUTIVE OFFICER, OUACHITA RIVER VALLEY ASSOCIATION

My name is Lloyd Platt, Executive Officer of the Ouachita River Valley Association in Arkansas and Louisiana with headquarters in Camden, Arkansas.

The Ouachita River Valley Association is an organization that has been the public spokesman for the Ouachita River Basin on water development since the turn of the century.

This year we are following the suggestion of this Committee in conserving energy and excessive travel expenses and did not encourage a large number of Ouachita River Valley Association members to make the trip to Washington, but we have a number of testimonial letters which I ask permission to file for the record.

The statement before you of the President's Budget and the difference of the Corps of Engineer's capabilities marked in green are the projects we would like to emphasize. The other items are important but we feel those marked will help the most to complete the 9ft. Navigation Project, by FY '83 in order for the Ouachita Basin to make a contribution to the defense of the nation and the economic well-being of the Basin.

All of our major projects are of long standing and have been studied, restudied and surveyed and have been found to be economically justified; in construction this applies especially to our locks and dams in Arkansas with Lock #6 at Felensthal, Arkansas at 95% completion and Calion Lock #8 at 25% to be completed by 1983. Both locks and dams in Louisiana are completed.

We have the 9ft. navigation project up to Sterlington, Louisiana; with the completion of the locks and dams in Arkansas, the bend widenings and cutoffs, the dredging can bring the desired channel up to Camden, Arkansas and beyond to Arkadelphia, Arkansas.

Vought Corporation is conducting a transportation study for a recommendation to the Army on the best mode of transportation for the defense item to be manufactured in Camden, Arkansas.

The Ouachita River Valley Association has recommended that it be shipped by water. We believe it to be the cheapest and safest way for this production to reach a port for shipment overseas.

The 9ft. channel with three barge tows was the authorized project with two locks and dams in Louisiana and two in Arkansas. We of the Ouachita River Valley Association feel this project has lagged long enough. It's time to finish it up without further delay.

Mr. Chairman I thank you along with the Committee for the privilege of appearing before you and for your kind attention.

Projects	President's Budget Fy 1982 ($1000)	Corps of Engineers Capabilities O. R. V. A. Request ($1000)	Amount Needed Above President's Request ($1000)
	GENERAL INVESTIGATIONS		
Boeuf-Tensas Basin	785	785	0
Larto Lake-Saline Lake Area	340	500	160
Collection & Study of Basic Data	165	165	0
Ouachita River Basin	1,000	1,300	300
	CONSTRUCTION		
Channel Improvement (Vicksburg District Portion)	14,000	46,600	32,600
Mississippi River Levees (Vicksburg District Portion)	10,700	20,700	10,000
Boeuf-Tensas Rivers including Lake Chicot Pumping Plant	18,000	18,200	200
Red River Backwater Area including Tensas-Cocodrie Pumping Plant	7,000	13,500	6,500
Tensas River Nat. Wildlife Refuge	0	39,800	39,800
Ouachita & Black Rivers	24,500	26,900	2,400
Blakely Mountain Dam-Lake Ouachita	790	790	0
Narrows Dam - Lake Greeson	130	530	400
	OPERATION & MAINTENANCE		
Channel Improvement (Vicksburg District Portion)	9,356	12,215	2,859
Lower Arkansas River	153	153	0
Mississippi River Levees (Vicksburg District Portion)	467	747	280
Boeuf-Tensas Rivers	94	94	0
Red River Backwater	105	105	0
Blakely Mountain Dam - Lake Ouachita	2,465	6,010	3,545
DeGray Lake	2,523	3,288	765
Lake Providence Harbor	160	160	0
Madison Parish Port	171	171	0
Narrows Dam - Lake Greeson	2,125	4,570	2,445
Ouachita & Black Rivers	3,690	5,840	2,150
General Regulatory Functions	584	695	111

STATEMENT OF EDWIN M. HORTON, TREASURER, OUACHITA RIVER VALLEY ASSOCIATION

My name is Edwin M. Horton, Treasurer of the Ouachita River Valley Association in Arkansas and Louisiana, with headquarters in Camden, Arkansas.

The Ouachita River is the source of all drinking water for numerous towns in Arkansas and Louisiana.

The Ouachita River is the source of water for the growing number of rural water districts emerging throughout the basin with the assistance of the U. S. Department of Agriculture.

The Ouachita River is the source for transportation of hundreds of tons of gravel for highways, of soybeans for food, and of oil for manufacturing.

The Ouachita River project was authorized several scores of years ago by the Congress and is within just five years of completion if the U. S. Army Corps of Engineers is allowed to perform at the capability figure presented by the Corps to you.

With this completion comes flood control long needed, recreation long sought, the embryo of hydro electric power potential long wasted and alternative transportation opportunities competitive with those on the Nation's other inland waterways.

I respectfully urge the Committee to consider and accept the capability of the Corps in its deliberations on the Ouachita/Black Rivers project.

STATEMENT OF H. K. THATCHER, LITTLE ROCK, ARK.

My name is H. K. Thatcher (ORVA, retired), 1601 N. Mississippi Ave., Little Rock, Arkansas, 72207.

The Ouachita River Valley was organized by the citizens of the Valley in 1893 to be its spokesman for the "local interests." I was the Executive Vice President of the Association for 30 years. Our group is well organized and has become well known to many members of the Congress and several National Administrations. The ORVA is presently in capable hands under Lloyd Platt.

The new National Administration is under a mandate to do something that will end the rampant expansion of several government agencies and the run-a-way inflation. I believe most of our people are in agreement with the new Administration but there are some basic projects that cannot be curtailed and one of these is the 9ft. Navigation Project of the Ouachita River. The help of this Committee is desperately needed in this respect.

It is of great concern that this 9ft. channel, which is nearing completion, be completed in the calendar year of 1983. The time coordination is extremely important to our National Security. The Vought Corporation operates a warplant near Camden, Arkansas, which has a sizable contract to produce and ship to tidewater ports, multiple launching rocket systems for the Army and N. A. T. O. The 9ft. Navigation Project and the Vought manufacturing contract will size out in 1983. There must be no delay in either principle, certainly the river project which is ours, must not be delayed from lack of appropriated funds.

It could be vital to the National Security and this is why our urge is vital.

STATEMENT OF LAWRENCE H. DERBY, PRESIDENT, OUACHITA RIVER VALLEY ASSOCIATION

My name is Lawrence H. Derby, President of the Ouachita River Valley Association.

Our organization has been working for the development of the Ouachita River for over 50 years. Our projects are well underway and progressing satisfactorily.

It is our desire to request funding at the level requested by the Corps. Any delay in funding this project will increase the costs tremendously due to inflationary trends.

The Vought Corporation's location at Camden makes this project even more important. They feel very strongly that water transportation will be the most economical for the Army and other buyers to move their production.

Mr. Chairman, I thank you and the Committee for your time and your consideration of our requests.

STATEMENT OF JAMES H. PHILLIPS, EXECUTIVE DIRECTOR, ARKANSAS WATERWAYS COMMISSION

The Arkansas Waterways Commission continues to endorse and support the water development goals identified by the Ouachita River Valley Association.

All modes of transportation are needed in the State. The continued development of the Ouachita Basin will help the State and national governments to move toward the long range goals of energy independence and competitive prices for all our goods in the market places of the world.

The Commission is aware of the need for a balanced budget and that priorities must be set for federal investments. We know there are limitations on investment capital. The State, like the nation, however also knows that people need jobs and that their environment must be protected. It is the Commission's belief that the investment in the Basin is compatible with the needs of the nation and the State and the Ouachita project should be done.

The benefits that will be accrued by the Ouachita Basin can be realized sooner if the capital investment is made at the earliest date. Further, it is believed that the early deployment of the multiple launch rocket system from Camden to Europe could be expedited with the completion of the project. For these reasons it is recommended that the Corps of Engineers work at the maximum construction capability on the project and this suggests the funding level in Arkansas be at $26.9 million and $5.8 million for operations and maintenance.

The Arkansas Waterways Commission thanks the Committee for the opportunity to make this written statement.

STATEMENT OF H. W. MCMILLAN, ARKADELPHIA, ARK.

I am H. W. McMillan, an attorney living in Arkadelphia, Arkansas. For more than thirty (30) years (1940-1970) I was associated with Ouachita River Valley Association, first as President, then Chairman of the Board. For many years I appeared before House and Senate Committees along with H. K. Thatcher, Executive Vice President of the Association, in behalf of the Ouachita River Program.

The Ouachita River Basin Program was approved in 1950 for a nine foot (9ft.) three (3) barge tow which is yet to be completed. The people of the Basin want this project completed as soon as possible and urge this Committee to appropriate the necessary funds to keep the Army Corps of Engineers working at their capability to finish this project so it can be extended on up to Arkadelphia, the head of navigation, as soon as possible.

Mr. Platt. Thank you, Mr. Chairman. I feel rather inadequate at this point. I am picking up the reins from a man that has been here for 40 years. Senator Stennis and Senator Johnston are very familiar with that gentleman, Mr. H. K. Thatcher. He made this trip back to Washington for 40 years, and Friday I saw him and he said, "I just can't make it. My legs won't let me." But his mind is still as sharp as it ever was.

Senator Johnston. We especially honored him, Mr. Chairman, last time he was here. We do miss H. K. because everything Mr. Platt says about him is true.

Senator Cochran. We appreciate you mentioning him.

Mr. Platt. Mr. Chairman and gentlemen of the committee, my name is Lloyd Platt. I am the executive officer of the Ouachita River Valley Association in Arkansas and Louisiana with headquarters in Camden, Ark.

The Ouachita River Valley Association is an organization that has been the public spokesman for the Ouachita River basin on water development since the turn of the century.

This year we are following the suggestion of this committee in conserving energy and excessive travel expenses and did not encourage a large number of Ouachita River Valley Association members to make the trip to Washington, but we have several testimonial letters, which I ask permission to file for the record.

Senator Cochran. We appreciate having those and we will make them a part of the record.

Mr. Platt. The statement before you of the President's budget and the difference of the Corps of Engineer's capabilities marked in green are the projects we would like to emphasize. The other items are important but we feel those marked will help the most to complete the 9-foot navigation project by fiscal 1983 in order for the Ouachita basin to make a contribution to the defense of the Nation and the economic well-being of the basin.

All of our major projects are of long standing and have been studied, restudied, and surveyed and have been found to be economically justified; in construction this applies especially to our locks and dams in Arkansas with lock No. 6 at Felensthal, Ark., at 95-percent completion and Calion lock No. 8 at 25 percent to be completed by 1983. Both locks and dams in Louisiana are completed.

We have the 9-foot navigation project up to Sterlington, La.; with the completion of the locks and dams in Arkansas, the bend widenings and cutoffs, the dredging can bring the desired channel up to Camden, Ark., and beyond to Arkadelphia, Ark.

At the present time, Vought Corp. is conducting a transportation study for a recommendation to the Army on the best mode of transportation for the defense item to be manufactured in Camden, Ark.

The Ouachita River Valley Association has recommended that it be shipped by water. We believe this to be the cheapest and safest way for this production to reach a port for shipment overseas.

The 9-foot channel with three barge tows was the authorized project with two locks and dams in Louisiana and two in Arkansas. We of the

Ouachita River Valley Association feel this project has lagged long enough. It is time to finish it up without further delay.

Mr. Chairman, I thank you along with the committee for the privilege of appearing before you and for your kind attention.

Senator COCHRAN. Thank you, Mr. Platt. We appreciate having the benefit of your testimony and also the thoughts that you have about the necessity to complete this project.

I don't have any specific questions.

Senator Johnston?

Senator JOHNSTON. No. Mr. Platt did a fine job. This project channel relinement and cutoff work up above Monroe, La. I hope they can come up with a design that can satisfy the folks up on that river. We have gotten complaints from hunters and sportsmen who don't want those bends straightened out in the wrong way. I hope we can come up with a plan that can be satisfactory to them. I think you all know the opposition from the Monroe Chamber of Commerce and the Monroe City Council.

Mr. PLATT. The Corps is making a study of three alternatives and I think one of the three will be satisfactory for all concerned.

Senator JOHNSTON. That is good, because we want to cooperate with our good friends from Arkansas.

Mr. PLATT. We want to get everything down the river at one time as cheaply as we can, but at the same time we are going to disrupt the whole organization and I don't think it is worth it.

Senator COCHRAN. Senator Stennis?

Senator STENNIS. Nothing more. Thank you.

Senator COCHRAN. Our next witness this morning is Mr. Chester Wells, who is president of the Red River Valley Association.

Mr. Wells, please come forward. Please introduce the gentlemen who are with you for the benefit of the record.

Mr. WELLS. Thank you, Mr. Chairman, members of the committee. It is always a pleasure to be here before you. I am here this morning wearing three hats—president of the Red River Valley Association, president of the Red River Channel Levees, and a member of the Red River Waterway Commission. I don't have a whole lot of comment to make. We have some speakers that will identify those items.

The first will be Mr. Tanner speaking in behalf of the State of Texas.

RED RIVER VALLEY AND TRIBUTARIES PROJECTS

STATEMENT OF HOMER TANNER, MEMBER OF THE EXECUTIVE COMMITTEE, RED RIVER VALLEY ASSOCIATION

Mr. TANNER. Mr. Chairman and members of the committee, I speak to you as the executive committee member of the Red River Valley Association from the State of Texas. I am, by vocation, the executive director of the Northeast Texas Municipal Water District, a political subdivision of the State charged with the orderly development of the water resources of a significant segment of northeast Texas.

My colleagues and associates have asked that I address you today to summarize our concern for the development of water resource projects in the Red River Valley.

The specific projects we are here to support have been documented in detail. The Corps of Engineers have provided capabilities and funding levels, the association has provided additional evidence supportive of the valley's needs, specific requests of Texas' interest have been provided, and a comprehensive overview by the Texas Department of Water Resources has been prepared. Copies of all documents have been submitted to the staff for inclusion in the record and, more importantly, consideration by the committee.

Perhaps the most compelling document for consideration by this committee is the President's budget proposal, as modified earlier in March. A review of the document indicates spending levels for projects in the Texas area of concern to be appreciably reduced from stated U.S. Corps of Engineers capabilities, with a drastically reduced funding proposal for navigation feature construction in Louisiana.

PROGRAM BENEFITS

The position statement submitted by the Texas Department of Water Resources previously mentioned clearly sets forth specific items we are here today to present. I wish to draw your attention to the human values associated with this request for dollars.

Red River Valley farmers provide the Nation with a major production of agricultural commodities—cotton, grains, vegetables, dairy products, and beef. People in the valley produce by manufacture products of every description for national and international consumption. The exported grains and manufactured products are a significant segment of our balance of trade which is so important to our Nation.

People are moving into the valley in ever-increasing numbers attracted by living standards and job opportunities. Our requests for project funding are vitally needed to keep pace with the growth and development.

We must enhance water quality through salt abatement programs to ultimately result in increased quantities of domestic and agricultural waters the entire length of the river. Ongoing studies now conclude the waters of the Red River will be diverted for domestic utilization at an even more rapid rate than thought as recently as a year ago. Flood control measures speak for themselves as do the water supply projects. Bank stabilization and related projects enhance the entire river and affect all the valley residents, not only in Texas, but to include neighboring States.

RED RIVER WATERWAY, LA.

Navigation of the Red River has for years been a major project of the Red River Valley Association. The people who initiated the association had navigation as a single goal. Through the years, the scope of interest broadened to include the broad spectrum of water-related projects considered beneficial to all.

People of the valley were overjoyed when the Congress allotted construction money for lock and dam No. 1. Residents in Arkansas, Oklahoma, and northern Texas all saw the beginning of a new era when economical transportation would become reality in the four-corner area and above.

There are overriding reasons, otherwise set forth by my colleagues here today, that speak to the need for continued funding of the navigation feature. We in Texas wish to endorse unequivocally the request for restoration of significant construction funds.

The President has asked us all to share in balancing the national budget. We in Texas can accept that request and will gladly join hands with all other Americans of like mind in accepting reasoned budget cuts that would not cause deleterious effects to valuable ongoing projects.

Thank you.

[The statement follows:]

STATEMENT OF HOMER TANNER, MEMBER, EXECUTIVE COMMITTEE, RED RIVER VALLEY ASSOCIATION

RED RIVER VALLEY AND TRIBUTARIES	APPROPRIATIONS	DATA 1982
PROJECT AND STATE (Amount in Thousands)	President's Budget 1982	RRVA Request 1982
PLANNING AND CONSTRUCTION		
Overton-Red River WW LA., Lower 31 miles	5,020	5,020
Red River Emergency Bank Protection, LA, AR, OK & TX	5,500	9,800
Red River Levees and Bank Stabilization below Denison Dam, TX, AR & LA	3,600	5,990
Red River Waterway Miss. River to Shreveport, LA	120,000	140,000
Arkansas-Red Basin Chloride Control, OK, TX & KS	595	595
Red River Bank Stabilization Index, AR to Denison Dam, AR, OK & TX	0	240
Arkansas-Red Basins Chloride Control, TX (Area VIII)	12,840	12,840
Clayton Lake, OK	3,500	3,500
Bayou Bodcau and Tribuatries, LA	600	600
West Agurs Levee, LA	70	70
Big Pine Lake, TX	75,498	75,598
Lukfata Lake, OK	0	100
Parker Lake, OK	0	100
Lake Wichita - Holliday Creek, TX	100	100
Lower Red River Levees, LA	700	3,200
McKinney Bayou, AR	200	200
SUBTOTAL - PLANNING & CONSTRUCTION	228,223	257,953
STUDIES		
Red River Below Denison Dam, Comprehensive Basin Study, AR, LA, OK & TX (Auth. Report)	0	120
Red River Water, Shreveport, LA, Vicinity Index, AR	30	300
Red River & Tributaries above Denison Dam, OK & TX	350	350
Aloha, Rigolette Project, LA	0	170
Red River Below Denison Dam, Comprehensive Basin Study, (Cane River Island Flood Control Study)	0	150
SUBTOTAL - STUDIES	380	1,090
RECREATION		
Denison Dam-Lake Texoma, OK & TX	0	445
Pat Mayse Lake, TX	0	235
SUBTOTAL - RECREATION	0	680
TOTALS:		
PLANNING & CONSTRUCTION	228,223	257,953
STUDIES	380	1,090
RECREATION	0	680
GRAND TOTAL:	$228,603	$259,723

RED RIVER WATERWAY, SHREVEPORT, LA., TO INDEX, ARK.

STATEMENT OF JOHN F. STROUD, REPRESENTING THE STATE OF ARKANSAS

Mr. WELLS. Next, we have Mr. John Stroud, representing the State of Arkansas.

Mr. STROUD. Mr. Chairman, gentlemen, I have filed a written statement and I will talk briefly about the projects that we ask your consideration from the State of Arkansas.

First of all, we are most pleased to join with the State of Louisiana in seeking an orderly continuation of that navigation project. We have supported it from the beginning. Senator Stennis, a little over 19 years ago I came here as a legislative assistant. Senator McClellon, I recall his working with you in the development of the Arkansas River navigation project. We want that same thing to happen in the Red River Valley and look forward to the days in which that is navigable to the Denison Dam.

We have a project that has been in planning now for about 5 years—Red River Waterway, Shreveport, La., to Index, Ark.—beginning upstream from the completion of the navigation project and to have a comprehensive navigation program. The Red River Commission was created when Senator Pryor was Governor and has raised about $3 million from cities, counties, small communities, and the State legislature, invested in certificates of deposit and adding to it each year so we can be ready with our non-Federal costs when the planning is completed. The amount in the President's budget is $30,000 for planning. The Corps has the capability of $300,000. As Senator Long said, we would certainly expect to take our part, but that is entirely too drastic a measure and, in effect, terminates planning. The $30,000 would allow virtually no planning to continue.

We are not asking that you balance the budget with all the other people's projects; we expect cutbacks in ours. But we ask you to take a look at that in the markup and see if that can't be raised to a more realistic level.

One other project you saw fit last year to fund for the first time, initiated planning from Index, Ark., where Texas joined the Red River up to Denison Dam. And that planning began last year. There is nothing in the President's budget to continue that plan. It is appropriate it continue upstream. It has a capability of $240,000 and that should be reduced in line of the problems you have, but it shouldn't be zeroed and we ask you to give your thoughtful consideration to continuing that plan to get whatever you feel appropriate.

We know your problems. We appreciate the privilege of being here and thank you very much.

Senator COCHRAN. Thank you, Mr. Stroud.

[The statement follows:]

Statement of John F. Stroud, Jr., Representing Red River Valley Interests in Arkansas

1.	Red River Waterway, Shreveport, Louisiana, to Index, Arkansas - for continuation of pre-construction planning; President's budget request for FY 82 ($30,000) Our request	$ 300,000
2.	Red River Bank Stabilization, Index, Arkansas, to Denison Dam (Arkansas, Oklahoma and Texas) - for continuation of pre-construction planning; President's budget request for FY 82 (none) Our request	240,000
3.	McKinney Bayou; requested appropriation to continue pre-construction planning; President's budget request for FY 82 ($200,000) Our request	200,000
4.	Red River Emergency Bank Protection (Louisiana, Oklahoma, Arkansas and Texas); President's budget request for FY 82 ($5,500,000) Our request	9,800,000
5.	Red River Levees and Bank Stabilization Below Denison Dam (Texas, Arkansas and Louisiana); President's budget request for FY 82 ($5,990,000) Our request	5,990,000
6.	Arkansas-Red River Basin Chloride Control - to continue construction (Texas Area VIII); President's budget request for FY 82 ($12,840,000) Our request	12,840,000
	Arkansas-Red River Basin Chloride Control - to complete pre-construction planning (Oklahoma, Texas and Kansas) President's budget request for FY 82 ($595,000) Our request	595,000
7.	Red River Waterway, Mississippi River to Shreveport, Louisiana; President's budget request for FY 82 ($27,000,000)	

Red River Waterway Project

STATEMENT OF B. A. ROTHCHILD, VICE PRESIDENT, RED RIVER VALLEY ASSOCIATION

Mr. Wells. We have Mr. B. A. Rothchild, vice president of the Red River Valley Association and chief spokesman.

Mr. Rothchild. Mr. Chairman and members of the committee, ladies and gentlemen, I come before the agent body as a private taxpaying citizen who has personally paid all of his expenses to come to these annual meetings of the House and Senate for over 25 years.

At a time when, in addition to cutting the budget, a prime concern of the Government is to stimulate its economy, increase employment, and, in the President's own words, "Turn the Nation around and make a new beginning," this time is not one in which to cut a project that offers promise of new revenue, new vitality, and new momentum to a large segment of America's mid-South region.

This project, cutting across an oil-rich section of the Nation, will facilitate drilling operation, improve the forestry industry, helps develop the new lignite deposits which are just beginning to make their impact in helping the energy problem of the country.

As you know, the four States through which the Red River flows—Arkansas, Louisiana, Oklahoma, and Texas—are the richest source of revenue from the windfall profits tax in the Nation. Any cost of construction of the Red River navigation project would be offset by the increased dividends from further development of the oil resources of these four States. I would appreciate your considering the above statements in making your decisions to continue the ongoing funding of the Red River navigation project through this coming fiscal year and the years thereafter.

Thank you for your time and your affirmative action on this matter.

Senator COCHRAN. Thank you, Mr. Rothchild.

Mr. WELLS. The next speaker is Mr. Jiff Hingle, assistant secretary for the Office of Public Works, representing Louisiana Department of Transportation and Development.

RED RIVER WATERWAY PROJECT

STATEMENT OF I. F. HINGLE, ASSISTANT SECRETARY, OFFICE OF PUBLIC WORKS, LOUISIANA STATE DEPARTMENT OF TRANSPORTATION, AND CHAIRMAN, RED RIVER WATERWAY COMMISSION

Mr. HINGLE. Mr. Chairman and members of the subcommittee, my name is Jiff Hingle. I am assistant secretary for the office of public works, Louisiana Department of Transportation and Development, and chairman of the Red River Waterway Commission. My comments will be directed toward appropriations for projects in and affecting Louisiana, and are made in behalf of the State and the Red River Waterway Commission.

Included in the group who are present here today from Louisiana are the members of the Red River Waterway Commission and several levee boards, representatives of municipalities and local governing bodies, along with other representatives of the State government, all of whom have traveled a considerable distance at some expense in both money and time, to indicate their support for the recommendations and requests that we will make to you, and their interest in these vital water resources projects.

PROJECT BACKGROUND

By far the most critically needed of these projects in the Red River basin of Louisiana, and one which touches the lives of all of those I have mentioned, is the Red River Waterway project. More than 40 years of constant effort by the Red River Valley Association, State governmental entities, and many local groups and individuals were rewarded when the Rivers and Harbors Act of 1968 was approved by the 90th Congress, authorizing the construction of the project. This action was taken only after very thorough studies of the economics of the project, done by the Corps of Engineers, proved that it is justified, a requirement that is not placed on many other programs receiving Federal funding. The economic worth of the project was and is obvious in spite of the long known fact that the rules governing Corps studies do not allow full advantage to be taken of some types of benefits, and the fact that the benefits from more readily available water supplies and from hydropower generation have not yet even been fully assessed, much less included in the preauthorization studies.

The Red River Waterway project again came under close scrutiny when it turned up on the water project "hit list" of the previous administration. Again, its worth was recognized and it was restored to approved status and construction continued.

We now find the project not only being questioned, but singled out as one of the few to have their funding so severely cut as to be tantamount to complete abandonment. Based on some of the figures we have heard quoted, the total amount of cuts proposed in the civil works construction program is about $177 million. The $93 million cut in the Red River Waterway project then represents about 53 percent, or more than half, of the total cut, whereas the originally budgeted amount for the project represents only about 5 percent or 6 percent of the civil works construction program of the Corps.

We don't ask to be left unscathed while everyone else shares in the belt-tightening process. Nor do we argue that getting control of Federal spending is inappropriate, quite the contrary. We only point out that the means being employed are far from even-handed, and the people of the Red River basin are being asked to bear an inordinate share of the proposed reductions. We request that the Red River Waterway project be funded at the same level as other similar projects and other programs.

Although the Red River Waterway project is our most critical need in the Red River basin of Louisiana, there are a number of other projects in the basin area for which funds are required in the coming fiscal year. These projects and needs are addressed in our written brief, which has been filed for the record with your staff. We solicit your favorable consideration of these requests. We also wish to be recorded in support of the basinwide requests made by the Red River Valley Association and the representatives of our sister States in the basin testifying here today.

Thank you for this opportunity to appear before you and express our views.

RED RIVER WATERWAY PROJECT

STATEMENT OF CARROLL E. LANIER, CHAIRMAN, LOUISIANA ENERGY AND POWER AUTHORITY, AND MAYOR, ALEXANDRIA, LA.

Mr. WELLS. The next speaker is Mr. Carroll Lanier, of the city of Alexandria, La., and also chairman of the Louisiana Energy and Power Authority.

Mr. LANIER. Good morning, Mr. Chairman, Senator Johnston, I appear before you as the chairman of the Louisiana Energy and Power Authority representing the cities of Alexandria, Houma, Jonesville, New Roads, Morgan City, Opelousas, Lafayette, Plaquemine, and Winnfield, La. This is a group of cities which have joined together to work individually and collectively and in concert with both investor-owned and co-op utilities to provide our customers with firm electrical power at the cheapest rate possible.

I also represent the cities of Alexandria, Jonesboro, Vidalia, and New Roads, La., all of whom have preliminary permits from the Department of Energy for hydroelectric plants on the proposed lock and dams 1, 2, 3, 4, and 5, on the Red River Waterway.

POWER BENEFITS

In energy conservation alone these locks and dams would save 3,265,290 barrels of oil per year, or 22,075,200 mcf of natural gas per year. The five hydro facilities would have an electrical generating capacity of 210 megawatts annually and save our customers hundreds of millions of dollars in the years to come.

As an example, in my own city of Alexandria at the present day prices, lock and dam No. 2 and the proposed hydroelectrical plant would reduce my constituants costs for electricity an estimated 12 percent today and an estimated 35 percent by 1986.

Since January 1974, the city of Alexandria's cost of natural gas has increased by 1559 percent and we have no reason at this time to see any relief in the future. To give you an example, I have a $64 million budget, $33 million of that is for the cost of natural gas. Better than 50 percent of my budget.

In summation, our request to you, gentlemen, is a resolution to the U.S. Army Corps of Engineers to include hydroelectric benefits in the cost-benefit ratio of the Red River Waterway. We are not asking for an appropriation, in fact, quite the opposite. We propose to build the hydroelectric plants with local public funds, private funds, or a combination of both. We request that the Corps of Engineers not be given the authority to do the hydroelectric portion of the project. We do have the ability to do these as pointed out.

Congress has appropriated funds in prior years. Because of this, in the last 14 months the city of Alexandria has spent $12,000 of its own funds for the hydroelectric plant. I know that is not a lot of money by Washington standards, but by the city of Alexandria standards, that is a pretty good chunk of money and we did this because of prior authorization and prior commitment to this project. As a suggestion, if we were all to be treated equitably and if you took all the water projects in the Nation and cut them 15 percent, I think you would come up with $500 million more cuts than the President has proposed.

Thank you, gentlemen, for your time.

Senator COCHRAN. Thank you.

[The statement follows:]

STATEMENT OF CARROLL E. LANIER, MAYOR, ALEXANDRIA, LA.

I appear before you as the Chairman of the Louisiana Energy and Power Authority representing the Cities of Alexandria, Houma, Jonesville, New Roads, Morgan City, Opelousas, Lafayette, Plaquemine and Winnfield, Louisiana. This is a group of cities which have joined together to work individually and collectively and in concert with both investor-owned and coop utilities to provide our customers with firm electrical power at the cheapest rate possible.

I also represent the Cities of Alexandria, Jonesboro, Vidalia and New Roads, Louisiana, all of whom have preliminary permits from the Department of Energy on the hydro electrical plants on the proposed Lock and Dams 1, 2, 3, 4 and 5, on the Red River Waterway.

In energy conservation alone these locks and dams would save 3,265,290 barrels of oil per year or 22,075,200 MCF of natural gas per year. The five hydro facilities would have an electrical generating capacity of 210 megawatts annually and save our customers hundreds of millions of dollars in the years to come.

As an example, in my own City of Alexandria and at present day prices, Lock and Dam #2 and the proposed hydro electrical plant would reduce my constituants costs for electricity an estimated 12% today and an estimated 35% by 1986.

Since January of 1974, the City of Alexandria's cost of natural gas has increased by 1559% and we have no reason at this time to see any relief in the future.

In summation, our request to you, gentlemen, is a resolution to the U. S. Army Corp of Engineers to include the hydro-electrical benefits to the cost benefit ratio of the Red River Waterway. We are not asking for an appropriation, in fact, quite the opposite. We propose to build the hydro-electric plants with local public funds, private funds or a combination of both. We request that the Corp of Engineers not be given the authority to do the hydro-electric portion of the project. We do have the ability to do these as pointed out.

Thank you very much for hearing and considering our request.

Resolution of Board of Directors, Louisiana Energy and Power Authority

A RESOLUTION DIRECTED TO THE HONORABLE RONALD REAGAN AND MEMBERS OF THE HOUSE OF REPRESENTATIVES AND SENATE OF THE UNITED STATES OF AMERICA FROM THE BOARD OF DIRECTORS OF LOUISIANA ENERGY AND POWER AUTHORITY.

BE IT RESOLVED by the Board of Directors of LOUISIANA ENERGY AND POWER AUTHORITY, a political subdivision of the State of Louisiana, with full corporate power to provide facilities for the generation and/or transmission of electric power and energy, presently having as members, the Cities of Alexandria, New Roads, Lafayette, Winnfield, Morgan City, Houma, Plaquemine, Jonesville, and Opelousas, Louisiana; that:

SECTION 1: This resolution be transmitted by the Chairman of the Board, Mayor Carroll Lanier, of the City of Alexandria, to the Honorable Ronald Reagan,President of the United States, and to the Honorable Members of the United States House of Representatives and Senate;

SECTION 2: That the said Honorable President and members of Congress are urged to do everything in their respective powers to retain existing appropriations and to provide the further appropriations necessary to the prompt and final completion of the Red River Navigation and Waterways projects planned for the Red River in the State of Louisiana.

SECTION 3: In making this request, the President and the members of Congress are urged to consider, in addition to the improvements to navigation provided by the proposed Red River projects, the benefits and advantages which would flow as a result of those projects to the citizens of the State of Louisiana in the form of hydroelectric power generation.

SECTION 4: This Board respectfully submits that the construction of the hydroelectric generation facilities planned for the Red River will serve to provide a continuing source of electrical energy for the consumers in the State of Louisiana (optimum utilization of a renewable natural resource), and will further serve to reduce this country's dependency on the domestic and foreign petroleum products needed to fuel gas and oil-fired electric generating units.

SECTION 5: For these reasons and others, this Board respectfully requests that the President and members of Congress commit themselves to the support of the propositions set forth in this resolution.

* * * * * * * *

CERTIFICATE

I hereby certify that the above and foregoing is a true and correct excerpt from the Minutes of the Regular Meeting of the Board of Directors of Louisiana Energy and Power Authority held at Winnfield, Louisiana, on March 18, 1981, and that the same remains in full force and effect.

S J Richard
SYLVAN J. RICHARD, General Manager,
LOUISIANA ENERGY AND POWER AUTHORITY
804 St. John Street
Lafayette, Louisiana 70501

ATTEST:

Carroll E. Lanier
CARROLL E. LANIER, Chairman of the
Board of Directors of
LOUISIANA ENERGY AND POWER AUTHORITY

BAYOU BODCAU AND TRIBUTARIES PROJECT

STATEMENT OF DEWEY E. BURCHETT, SECRETARY, BOSSIER LEVEE DISTRICT, AND REPRESENTING CITY OF BOSSIER CITY, LA.

Mr. WELLS. Speaking on behalf of the city of Bossier, La., Mr. Dewey Burchett.

Mr. BURCHETT. Good morning. I will try to be brief and touch on a project that this subcommittee has been aware of for some time. Congress in 1956, authorized the study of the Bayou Bodcau and tributaries project in Bossier Parish. About 10 years later, the plan of improvement was approved. In 1974 they started to build this project. And in 1977 it appeared on President Carter's hit list. Since that time we have not received any funding for the project and the project is only partially complete.

One of the major features of this particular project is dredging—cleaning out of a tributary which is very essential to Bossier Parish and Bossier City, a city of 65,000 people. We have gotten together with the Governor of the State of Louisiana and the mayor of Bossier City and the local interest groups and have been able to fund $1½ million—$1 million coming from the State and $500,000 coming from local interest. This demonstrates that local money and interest is very essential to the project. I know that the Congress is interested in national defense. Let me touch on this before I end.

This project does affect a city of about 65,000 people, the city of Bossier. And included in the adjacent area is a major Air Force base, Barksdale Air Force Base. We have submitted a written brief and I would respectfully ask that you look carefully at Colonel Luke—Colonel Luke is the base commander of Barksdale Air Force Base and he points out in his letter that this is a Federal facility that has a real property investment of $113 million worth of Federal facilities. And he also points out that damage has occurred in the last few years because of flooding—damage to runways. He points out the fact that the base could be in danger by flooding. He believes this project, when it is complete, would alleviate that problem.

I wanted to point that out and thank you very much for letting us appear before you.

Senator COCHRAN. Thank you, Mr. Burchett.

[The statement follows:]

STATEMENT OF DEWEY E. BURCHETT, JR., SECRETARY, BOSSIER LEVEE DISTRICT, LOUISIANA

SUMMARY OF REQUEST

This statement is presented in behalf of the Board of Commissioners of the Bossier Levee District, the City of Bossier City, and the people of Bossier and Red River Parishes, Louisiana, to urgently request that Congress rescind the legislative restrictions on the Bayou Bodcau and Tributaries Project, and that you appropriate adequate funding to the Corps of Engineers for construction on this project in fiscal year 1982.

DISCUSSION OF REQUEST

Congress, in 1956, authorized the study of the Bayou Bodcau and Tributaries Project in Bossier Parish. In 1965, after nine years of studies and delays and after a well justified plan of improvement was developed, the project was finally authorized for construction. In 1974, after another nine years of delays, studies and preconstruction planning, construction was finally begun, and the project was progressing satisfactorily.

Then, in March, 1977, this project, along with many other water resource projects throughout the Nation, was reviewed by the Department of the Army, at the request of the President, under new criteria for environmental, economic, safety and other factors. Although many other projects failed, this project passed all tests under the new review criteria; that is (1) the project will have no major adverse environmental impact, (2) the project benefits exceed the project costs, even at the new 6-3/8 percent discount rate, and (3) no credible question remains to be resolved concerning the safety of the project.

In spite of these facts, a study team, appointed by the President, arbitrarily decided that annual benefits in excess of project costs, were not adequate to offset the adverse environmental effects, and it was recommended that the project be terminated. Congress subsequently passed legislation modifying the project and eliminating those project features that would provide the greatest benefits to the people of the area.

We have been informed that the determining factors in the decision to modify the project in 1977 were:

(1) That only 60 landowners would benefit from the project.

(2) 1560 acres of wildlife habitat would be lost.

(3) 11.6 miles of fishing stream would be lost.

(4) Annual benefits would be inadequate to offset environmental effects.

We believe the above information to be absurd and significantly in error. We think the following is more factual.

(1) Approximately 65,000 people in Bossier City and Bossier and Red River Parishes will be affected by this project.

(2) The bulk of the land clearing caused by this project has already been done by features already constructed.

(3) There will be no loss of fishing stream because Flat River is a drainage ditch and an intermittent stream that is nearly dry in late summer, and consequently has a very small fish population.

(4) The Wildlife mitigation measures of the project more than offset the adverse impacts.

(5) A federal installation, vital to the defense of the Nation, Barksdale Air Force Base, is well within the area that would be protected by the project. Under present conditions, a flood in just one year could cause millions of dollars of damage to federal property.

The Bayou Bodcau and Tributaries Project is a complex project for the solution of complex and interrelated drainage and flood control problems. Both levee construction and channel improvement work are project features each of which depends on the other for successful operation of the over-all project. At the time the project was delayed, the levee portion of the Bayou Bodcau and Tributaries Project was approximately 30% complete and no channel improvement work had been accomplished. The State of Louisiana, The Bossier Levee District, and other government agencies within the levee district have recently begun construction on the channel feature of this project. The construction of Flat River Drainage Improvements is estimated to cost $5,000,000.00 for project completion. Currently 1.2 million dollars of drainage improvements is under way and 2.5 million dollars is planned for the 1982 fiscal year. The State of Louisiana and the interested local agencies in Bossier and Red River Parishes realize the importance of this project and are spending local funds to construct the channel portion of this project.

It should be noted, however, as explained above for the project to function properly both the levee and channel features must be constructed. The Sponsors of this project cannot complete this very important project without Federal participation as their funds are committed to the extreme limits presently and in the future. Furthermore, until this project is completed the construction of the Cypress-Black Bayou Watershed Project, an authorized P.L. 566 Project for drainage, flood control, and agricultural water management cannot begin.

We are therefore urging that Congress allow the construction of the Bayou Bodcau and Tributaries Project as it was originally planned and that it be funded at a level adequate to achieve project completion at the earliest possible date.

LETTER FROM COL. GUY D. LUKE, USAF

20 March 1981

Honorable Marvin E. Anding
Mayor of Bossier City
635 Barksdale Blvd
Bossier City, LA 71111

Dear Mayor Anding

I am aware of your continuing efforts to improve drainage and eliminate flooding problems in Bossier City. I certainly share your concern as both Barksdale Air Force Base and Bossier City depend on Cooper's Bayou and Red Chute Bayou for drainage of flood waters. These channels collect run-off from areas to the north of Bossier City and pass through the base with addition of heavy run-off from our expanse of airfield pavements and developed areas. Over the years, these primary channels have been dredged and improved through the city and the base, but a significant problem area exists at our southern boundary. Cooper's Bayou and its tributary, Mack's Bayou, feed into an unimproved drainage system to the south. This acts as a natural barrier to flow and creates severe flooding on Barksdale Air Force Base.

As you have noted within the city, flooding has become an increasing problem with continued residential and commercial development to the north. Although I realize that Louisiana law states that the downstream estate must receive the water of the upstream estate, I am concerned that the construction of homes north and northeast of Barksdale is outpacing the ability of the base's drainage systems to accommodate the additional run-off.

The base is now experiencing flooding conditions several times a year during intense rainfall. We have noted through the years that Red Chute Bayou, Cooper's Bayou, Mack's Bayou and Flat River have run bank full even with moderate rains. We attribute this to faster run-off from the north of the base as well as slower run-off from streams, including Flat River, south of the base that ultimately into Red River.

During heavy storms, many of our main thoroughfares become impassable and flood waters rise to within a few feet of our airfield pavements. A less dramatic, but equally serious consequence of increasing water levels became apparent in the fall of 1978 with the failure of subbase beneath the north and south ends of our runway. A total of 36 concrete slabs had to be replaced to insure continued airfield use. Further, the growing threat of flooding places at risk a real property investment of 113 million dollars including 913 base buildings and 1,[illegible] family housing units.

I am convinced that flooding problems for both Bossier City and Barksdale Air Force Base will not be alleviated until the drainage system to the south is improved. I refer specifically to the Flat River system which serves as the sole drainage channel for all lands lying between the Red River levee on the west and the Red Chute levee on the east. The proposed Corps of Engineer project to improve the Flat River is essential to the solution of this growing problem.

I realize that neither of our budgets or resources are adequate to meet the need for Flat River improvement, but unless we combine forces and make our voices heard, this essential project will once again be delayed. The ultimate result will be worsened flooding in and around Barksdale Air Force Base and Bossier City. My staff and I stand ready to assist you in any way possible to gain reinstatement of the Flat River project.

Sincerely

Guy D. Luke

GUY D. LUKE, Colonel, USAF
Commander

LETTER FROM MARVIN E. ANDING, MAYOR, BOSSIER CITY, LA.

March 13, 1981

Senator Russell B. Long
217 Russell Senate Office Bldg.
Washington, D. C. 20510

Dear Senator Long:

I am requesting that Dewey Burchett, Bossier Parish Levee Board, to deliver this letter to your office when he visits on March 23, 1981. As you know, I am in a re-election campaign which, added to my duties as mayor, requires I remain here.

The Flat River-Bodcau Bayou situation remains of great concern to us, as discussed with you in the past. While some work is underway on Flat River, south of Bossier City, there are many miles of drainage-ditch systems within and north of Bossier City which are a part of the Bodcau drainage system which now even more urgently need the major level of attention and dollars discussed for several years in the Bodcau-Flat River Project. Our city continues to grow and improve, greatly underscoring the need for immediately improving surface drainage within Bossier City. The costs of these drainage improvements exceed our ability to fund them, to a very large degree these ditches/bayous are a part of the State/Federal flood control system, and our need for improvement is immediate, not long range.

Just yesterday (3-12-81) I received calls from residents in the Plantation Park neighborhood in the city expressing concern that the heavy rains in May of this year will again subject them to flooding of their homes, since there is no evidence any progress has been made to continue the "Flat River Project" on into the city of Bossier City to improve ditch tributaries which inter-connect with the Flat River south of Bossier City.

We do recognize and appreciate your continuing assistance to this area and seek your understanding and agreement with the urgency of moving forward NOW on the Bodcau drainage improvements.

Sincerely,

Marvin E. Anding
Mayor

CLOSING REMARKS

Mr. WELLS. That concludes the speakers that we have this morning. I am not through yet. Let's chew the fat.

Senator Johston, you attended our annual meeting in Shreveport this last February. The speeches that you had here today were not prepared last night. Our association went on record the first week of February, we were coming to Washington to ask for a reasonable request under the new Reagan administration. We recognize there would be budget cutbacks, financial cutbacks. We discussed it thoroughly at that convention that we would come up here and ask for funding on equal basis. Whatever the cuts would be, we would take it, but let it be on fair and equitable basis.

We didn't come up here and form those ideas. We did it in Shreveport in February. We would still like to leave with the same thought.

Senator Johnston, you asked about right-of-ways. In the last 6 months, we have accelerated our right-of-way acquisition. We hired new attorneys, new land persons. The State of Louisiana was putting up that money for the right-of-way. In the seven-parish area, in 1966, we assessed $2 million, who supplied the funds, the seven-parish and adjoining areas. We spent in the neighborhood of $10 and $15 million deposited in the bank with money market certificates to acquire the right-of-way if the courts need it.

You asked about lock and dam No. 2. I think there are seven parcels, of which we obtained five. So, the State of Louisiana is not slowing down in any fashion by land acquisition for slowing down this effort.

I would ask if the committee has any questions while we are up here.

Senator COCHRAN. We appreciate you being here and having your colleagues with you. The quality of your statements is excellent. It is very helpful to the committee to have you testify before us.

Senator JOHNSTON. Thank you. I want to join the chairman in congratulating you all on excellent statements. I want to congratulate you, Chester, and those on the waterway commission for proceeding so quickly on those right-of-ways. That looked like it was going to be a real problem for us. Now, it looks like you are going to be ready before we are in funding, but we are going to try to catch up with you on funding and I hope we can. Mr. Lanier has made a very good case on the hydroelectric plant and how important that is to the people all up and down the Red River.

An article in the Alexandria Daily of March 13 quotes you as saying, "This hydroelectric could save as much as $12 on every $100 on utility bills." Is that correct?

Mr. LANIER. Yes, sir.

Senator JOHNSTON. I think that needs to be stressed over and over in the Alexandria area. I think you made a very powerful case. And I would like to make this article a part of the record..

Senator COCHRAN. Without objection, it will be made a part of the record at this point.

[The information follows:]

[From the Alexandria (La.) Daily Town Talk, Mar. 13, 1981]

MAYOR CITES RIVER PROJECT'S FINANCIAL BENEFITS

(By Cecil Williams)

Cancelling of the Red River navigation project, if that should be one of the results of President Reagan's austerity program, would mean a significant personal expense for Alexandria residents, Mayor Carroll Lainer believes.

That's because it is more than a navigation project. Such things as recreation and power generation also are involved, and the latter has a direct monetary impact on all citizens here.

If the locks and dams are not completed, the city's proposed hydroelectric projects will be fatally short-circuited.

That could wipe out a savings of as much as $12 on each $100 utility bill, Lanier estimates roughly.

Alexandria has the preliminary permit from the U.S. Department of Energy on proposed Locks and Dams Nos. 1 and 2, and Lanier has filed an objection with DOE over the permit at Lock No. 5. The city of Jonesboro got the permit but later sold its power system to Louisiana Power and Light. Lanier protested the possible transfer of the permit from Jonesboro to LP&L because municipalities have priority over utilities for the hydropower sites.

The hydro savings on utility bills would come about through lower fuel adjustment costs, Lanier said.

"Last summer the peak demand on the city's power plant was 138 megawatts. A hydroelectric plant at Dam No. 2 would produce 42 megawatts at a 64-foot pool stage and 25 megawatts at 58 feet, and each watt we generate ourselves is a watt we do not have to purchase when demand exceeds the supply at our power plant," Lanier said.

"The base cost of power to customers is $22.50 a thousand kilowatts, or about 2½ mills. The fuel adjustment cost of the power we buy is currently four mills, and that changes every month according to the cost of gas. If we could produce 42 more megawatts on our own, it would reduce the fuel adjustment cost added to customers' bills by about 30 percent, based on last summer's needs."

The endangered Red River program calls for completion of Dam No. 2 in 1986. The city would build its hydro plant simultaneously with construction of the dam which is located at Poland just southeast of Alexandria. Lanier said hydro feasibility studies on Dam No. 2 are almost complete and the city had planned to apply for a construction permit in May or June.

Some hydro power also would have been generated at Dam No. 1 but not as much as at the ones further up the river.

To illustrate this point about the value of hydropower here. Lanier cited the situation in some areas that use Tennessee Valley Authority (TVA) power, much of which is from hydro plants.

"Utility bills there went up 38 percent because some TVA plants had to start burning oil and gas when the drought lowered water levels in the lakes and streams," he said.

Lanier is not convinced the Red River project is dead.

"President Reagan does not expect to get all the reductions he has asked for. Some of the proposals are really negotiating tools with Congress," the mayor noted.

"When hydroelectric generation is taken into consideration, the cost-benefit ratio of the Red River project jumps to about $1.50-to-$1 instead of being about even as some studies have shown."

There is one sour note on negotiations however.

"We have to face the fact that Louisiana's negotiating stance is not so strong as it once was, with Russell Long no longer chairman of the Senate Finance Committee," Lanier said.

Lanier also strongly challenged suggestions often made here that the city should perhaps get out of the power generation business and buy its electricity from Central Louisiana Electric Co.

"How would that benefit the city's utility customers?" he asked. "If we lost the revenue from power sales we would have to replace it with a higher sales tax and a significantly higher property tax. Either way, the money is coming from the people.

"In addition, property tax will net around $621,000 this year, and that is less than one percent of our $64 million budget."

Lanier predicted a major power shortage in Louisiana in 1983 because "demand is already outstripping supply and it will get worse."

He said Louisiana members, including Alexandria, of the Southwest Power Pool had to import 25,000 megawatts of electricity in 1979.

Alexandria is also a member of the Louisiana Energy and Power Authority which is negotiating to buy a share of CLECO's coal-burning No. 2 generator under construction at the Rodemacher Power Station here, and part of a generator Cajun Electric Power Cooperative is building at New Roads.

RED RIVER NAVIGATION TO TEXAS

Senator JOHNSTON. I want to tell our friends in Arkansas and Texas that we are committed to bringing navigation up to you. Every now and then I hear a little grumble that people say that Louisiana is going to get up to Shreveport and stop it. We are totally committed to providing navigation to Arkansas and Texas, because it makes such good sense. Very little more is required to provide navigation to you and you got industries, as you point, and potential industry that can greatly benefit by this navigation. I want to reiterate that commitment to you.

Mr. Chairman, I think this group has done an excellent job and I have no further questions.

Senator COCHRAN. Senator Stennis?

Senator STENNIS. I have nothing further. I am glad to see them here and glad to see them make a good strong case. Thank you very much, Mr. Wells.

Mr. WELLS. Thank you.

ADDITIONAL PREPARED STATEMENTS

Senator COCHRAN. Thank you again, Mr. Wells. The additional statements that you have submitted will be incorporated in the record.

[The statements follow:]

STATEMENT OF CHESTER D. WELLS, PRESIDENT, RED RIVER, ATCHAFALAYA AND BAYOU BOEUF LEVEE DISTRICT, RAPIDES, AVOYELLES, AND ST. LANDRY PARISHES, LA.

This is to urge that adequate funds be provided to the U. S. Army, Corps of Engineers in the coming fiscal year to continue pre-construction planning on the Aloha-Rigollette Project in Rapides and Grant Parishes. Completion of pre-construction planning on this much needed project is extremely important to the citizens of the Red River, Atchafalaya and Bayou Boeuf Levee District and the Nineteenth Louisiana Levee District.

The Aloha-Rigolette Project was authorized in 1941. Construction was begun in 1948, and completed in 1954. The objective of the project was to provide flood protection for 58,000 acres of alluvial lands in northern Rapides and southern Grant Parishes during high stages of the Red River. Drainage from 340,000 acres that must flow through the protected area during lower river stages is disposed of by gravity flow through a two 10' x 10' gated concrete drainage structure in the Red River Levee at the lower end of the project.

Since construction of the project, the protected area has continued to develope agriculturally and is now subjected to frequent flooding by storm runoff from the large drainage area which is required to discharge into Red River through the two 10' x 10' gated concrete box culverts. These culverts and some channels leading to them are not adequate to provide for interior drainage even during low stages on the Red River.

Since completion of the federal project in the early 1950's, residential and agricultural improvements have greatly increased in the area and the available drainage facilities are simply not capable of providing the required protection. As a result, local interests have requested that additional studies be made of the project paying particular attention to the adequacy of the floodgate. The restudy of these facilities by the U. S. Army, Corps of Engineers has been authorized for several years now, and was begun only two years ago. Additional funding is required for the study to be continued in the coming fiscal year.

Although the study was authorized for several years, funding for such was not made available until Fiscal Year 1978, and Draft Reconnaisance Report was not completed until November, 1980. The final feasibility report is scheduled to be completed no sooner than September, 1983. If no funding is provided this fiscal year, the completion of the study will again be delayed an additional year. The U. S. Army, Corps of Engineers has expressed capabilities of utilizing $ for this project. I am, therefore, requesting that the sum of $ be appropriated for Fiscal Year 1982 to continue and advance the completion of this much needed study.

PLATFORM, RESOLUTIONS, AND WORK PROGRAM OF THE RED RIVER VALLEY ASSOCIATION

MEMBERSHIP RESOLUTION

The Red River Valley Association has for 56 years done notable work in the support and advancement of a program to develop the land and water resources of the valley to the beneficial use of all the people.

The Association is a voluntary group of citizens banded together in the best tradition of democracy to advance the interests of all the citizens of the valley.

We, members of the Association convened [illegible] this 56th annual meeting, realizing that further successful work of the Association is absolutely dependent upon continued financial support by its membership and prospective membership, urge each member to conduct a vigorous drive in his community and that the staff look to the registration list of this convention as a General Membership Committee to promote a larger more active participation in the affairs of the Association.

Therefore, we invite and urge all firms, corporations and individuals of the Red River Watershed to put this Association on their payrolls. We know of no other place where such a small investment will produce the returns that will accure to the people of the Red River Valley and the Nation. The rate of speed achieved in the development of the great Red River Watershed offer to its citizens the most interesting challenge. The opportunity to be of distinguished service to your community, state and nation, by alert participation in this program of work, is unlimited. The need of unselfish and clearsighted leadership is of the greatest importance. There is no competition of this undertaking except from other watersheds where citizens may have more vision and energy than is manifested by our people.

SUPPORT OF LOCAL DEVELOPMENT EFFORTS

The Red River Valley Association was created to promote navigation and development of the Red River. Such an organization with concern for the entire Red River Valley is needed to compliment and coordinate local promotion efforts.

The Red River Valley Association has been the principal supporter of the navigation project. Navigation will soon become a reality and will open the entire Central and Northwest Louisiana area to economic development through the advantages of low-cost river transportation and additional industrial sites along the river.

The Red River Valley Association offers its full support and assistance to the various port authorities, chambers of commerce, economic development districts and other local governmental entities in developing the areas along the waterway.

RIGHTS OF WAY FOR FLOOD CONTROL

The Flood Control Act of 1946, 79th Congress, provided for the enlargement of existing levees and construction of certain authorized levees on Red River below Denison Dam. Language in the Act requires local interests to be responsible to all lands, easements and/or rights-of-way required for construction of the improvemtns. Levee districts and local governing bodies have found that the number of enlargement, setbacks and berms has progressively increased and rights-of-way costs have sharply increased particularly in the past 10 years or so. Financial burdens resulting from increased costs for rights-of-way has steadily depleted limited revenues and funds of levee districts and local public bodies throughout the Basin area. The impact is so great that presently there are serious monetary problems and realistic doubt as to the abilities of various levee districts to continue to meet financial obligations.

The requirement of local interests to furnish all rights-of way is not consistent with Congressional policy and is not compatible with practically all other major river basin projects for flood control. It is obvious that modifications are drastically needed to correct these inadequacies.

The Red River Valley Association strongly urges Congress to amdend the 1946 Flood Control Act to permit federal reimbursement to levee districts and control purposes including construction of new levees, levee setbacks, levee enlargement, levee turnovers, berms and cutoffs as necessary. Such modification is required at an early time to help relieve local levee districts and governing bodies of an extreme financial burden, and to help assure continued progressive advancement of the flood control program in the Basin.

RELOCATION COSTS
FLOOD CONTROL AND NAVIGATION PROJECTS

The Levee Districts in the Red River Basin and the Red River Waterway Commission are experiencing increasing costs in the construction of navigation systems and construction and operation of flood control systems. The tax base of the basin lands are not capable to supporting additional tax loads to fund the relocation costs associates with levee setbacks, flood control works, and navigation projects.

The Federal Government through Public Law 91-646 know as the Uniform Relocations Assistance Act provides that these relocation costs are the responsibility of and must be borne by local interests. The requirements and guidelines established in this act are such as to be extremely costly.

The Red River Valley Association does strongly urge and request the Congress of the United States to amend the Federal Uniform Relocations Assistance Act (PL 91-646) to provide for federal payment of all such costs related to the construction of flood control and navigation projects in the Red River Basin of Louisiana, Arkansas, Oklahoma and Texas.

MAINTENANCE OF CHANNEL STABILIZATION WORKS

Past experience on Red River and many other river projects has shown conclusively that maintenance of channel stabilization works by local interests is impractical. Rapid changes in river conditions and alignment, such as occurs frequently on Red River, demand drastic extensions and revisions of existing protective works, and occasionally required changes are so radical that relocations are necessary. Experienced personnel, special equipment and certain materials are not normally readily available from local interests when needed, and the costs for those items exceed the financial capabilities of local levee districts.

The RRVA recommends to Congress that the Corps of Engineers be authorized and directed to maintain all bank stabilization and channel training work on Red River.

PROPOSED NEW HIGH LEVEL BRIDGE CROSSINGS

The Red River Valley Association is devoted to comprehensive and orderly development of the entire Red River Valley, including all aspects basic for its network of transportation systems.

The highway system is foremost as a companion to the Red River Waterway in providing the major means of transportation and there exists presently low level highway bridge crossings over the river that are in need of replacement to prevent times losses, delays and impeding of vehicular movements.

The Red River Valley Association urges the Congress of the U.S. to authorize, approve, provide in the best means possible, high level bridge crossing over the Red River Waterway so as to allow the progressive and orderly development of the Valley, with no intent to impact, delay, stop or otherwise alter any bridges funding ot project plans now envisioned.

RED RIVER MASTER PLAN FOR RECREATION

The Red River Waterway project is authorized as a multi-purpose project; and recognizing that recreation is an intergral component to said authorization; the Red River Valley Association (RRVA) hereby supports the Recreation Master

Plan currently being developed by the U.S. Army Corps of Engineers and endorses its concept of resource use;

Further be it resolved that the RRVA encourages and supports the implementation of the Master Plan when completed, through the development of recreation in accordance with the plans.

MITIGATION LANDS

The present interpretation held by the U.S. Fish and Wildlife insofar as "mitigation lands" for water conservation projects greatly hinders development of water supplies, flood control and bank stabilization projects. This same interpretation required taking large amounts of lands out or private ownership for wildlife management purposes. This reduction in private land ownership represents a considerable economic and tax base loss. This same loss is greatly compounded by the cost to the overall construction project.

Be it resolved by the Red River Valley Association in legal and convened session this 17th day of February, 1981, recognizing the need for a balance between the environmental aspects and the people needs, does hereby support, endorse and otherwise strongly urge our Congressmen and Senators in revising said interpretation held by the U.S. Fish and Wildlife in order to be compatible with the Congressional intent and to meet the needs of the people.

SMALL WATERSHEDS PROGRAM

The Red River Valley Association has long recognized the value of the Small Watershed Program (Public Law 566) for protecting and improving the soil and water resources of our nation.

The planning and carrying out resource improvment projects in small watersheds of less than 250,000 acres, as provided in Public Law 566, gives to rural and small town America an effective tool to span the gap between large watershed resource improvement projects of the Corps of Engineers and small, individual improvement projects, carried out by landowners and operators.

Public Law 566 has become a well-known and respected program of federal, state and local partnership in resource improvement and protection in the Red River Valley.

The Red River Valley Association reaffirms its support of the Small Watershed Program and urges its effectiveness be increased through appropriate increases in funding and personnel to allow maximum utilization of benefits.

RESOURCE CONSERVATION & DEVELOPMENT PROGRAM

The timely development and utilization of our soil and water resources are a primary objective of the Red River Valley Association, and the Resource Conservation and Development Program established by the Congress brings together available federal, technical and financial assistance and local initiatives and leadership in mustering all available help to plan and carry out needed environmental and economic enhancement developments.

The Soil Conservation Service and Soil and Water Conservation Districts have a leadership role in the conservation, development, and utilization of our soil and water resources. The Resource Conservation and Development concept is widely supported as a tool for achieving these conservation goals by both urban and rural populations alike throughout these United States.

All aspects of the RC&D program authorized by Congress have not been implemented. Efforts by the Administration are continuing to phase out the program.

The Red River Valley Association urges the Congress of the United States to enact enabling legislation for continuation of the RC&D program with adequate funds for completely implementing and escalating the program throughout the United States.

REGULATING LAND USE

In the past, proposals have been offered in the U.S. Congress and in some state legislatures to regulate and control the use of privately owned lands without compensation to the owner. These "land use" bills have been recognized by these legislative branches of government as contrary to the Fifth Amendment to the Constitution of the United States and soundly defeated each time they were offered. (The final phrase of the Fifth Amendment read, " . . . . .; nor shall private property be taken for public use, without just compensation.")

The Association does not believe that the U.S. Congress in the passage of the 1972 Water Resources Development Act Amendments intended the judiciary interpretation of the Section 404, as decided by the Washington, D.C. Federal Court in 1975, empowered the Environmental Protection Agency and the U.S. Army Corps of Engineers to regulate dredged and fill material into any and all waters of the United States.

Although the 1977 Clean Water Act was well intended its major effect has been to reinforce the hand of Federal bureaucracies in promoting a "no growth" philosophy through their rule-making authorities. These "rules" are now being applied to deny owners of private lands the privilege of changing its use. Yet, the owners must continue to pay taxes on this land.

The denial of a Federal "permit" for the development or change in use of private land without just compensation is clearly contrary to the Fifth Amendment.

The Association will, as a principal goal for 1981, urge members and Committees of Congress to reconsider this legislation in light of the unconstitutionality of interpretation by Government agencies.

NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act of 1969 has been interpreted in such a manner as to cause economic hardship and Environmental Impacts on man. An example is the Cooper Lake and Channels Project in Texas which is halted due to an Environmental Lawauit under HLPS with a cost increasing from $13,000,000 in 1959 to $63,000,000 in 1975 and in excess of $112,000,000 in 1981.

The Red River Valley Association desires for the Congress of the United States to consider revising this Act to:

1. Streamline the Administrative Procedures under the Act so as to speed up the time for completion and review of an Environmental Impact Statement in a Federal Project.

2. Recognize man as a part of the Environment and require that the effects upon man be taken into account in the preparation and analysis of an Environmental Impact Statement.

3. Make requirements that any person, association or other entity desiring to contest the adequacy of the administrative procedures in preparation and/or review of Environmental Impact Statements to be required to post bond in evidence of financial responsibility to reimburse the constructing agency for cost of delay in the event that the Environmental Impact Statement and/or procedure appealed from is found to be adequate, if not otherwise provided by exising law.

Further, the membership of the Red River Valley Association has become disturbed over special interest groups that have become engaged in distorted emotional appeals and propaganda efforts to delay and thereby add additional costs to projects in the Red River Basin causing severe hardships on the citizens of the Red River Basin. The membership condemns the high pressure tactics of such groups and urges that public officials and agencies be directed to proceed in a normal rate with a sound long range development of the Red River Basin and its water resources for the benefit of Arkansas, Louisiana, Oklahoma and Texas.

ARKANSAS-RED RIVERS BASIN CHLORIDE CONTROL

The Red River Valley Association is vitally concerned with the control of the ten natural pollution areas within the upper Red River Basin. There exists a vital and natural interest in reducing the mineral pollution of the Red River for economic growth as directly related to agriculture, municipal and industrial benefit. The Association has actively supported the work of reducing man-made pollution of the river and has followed, with keen interest, the work of the U.S. Corps of Engineers in finding sources of natural pollution and devising ways of abating them.

Passage of the 1970 Flood Control Act authorized measures to control the natural mineral pollution for areas in the upper basin. The 1970 authorization was subsequently qualified by the provision that construction on the project could not start until approved by the Secretary of the Army. The approval of the Red River Chloride Control report is dependent on the findings of the economic reanalysis being conducted by the Corps of Engineers. For that reason, no projects with the exception of Area VIII on the Wichita River have been funded for construction. Construction of Area VIII was authorized by the 1974 Water Resources Act without regard to restrictions placed on other Wichita River and remaining Red River Chloride Control projects.

Construction on Area VIII was begun in February 1977. Three construction contracts have been awarded. Work on the low flow dam, pump station and the 22-mile pipeline to the Truscott Brine Storage Lake is complete. Work on the brine storage lake is underway and about 30 percent complete

The Red River Valley Association strongly recommends that the Corps of Engineers receive $12,840,000 (the full capability) toward completion of Area VIII and $595,000 (the full capability) to continue preconstruction planning for remaining pollution in the basin.

The Red River Valley Association understands that a potential issue which could delay approval for construction has been the matter of cost-sharing which has been questioned by OMB. It is the intent of the authorizing legislation that removal of natural pollution is a federal responsibility and removal of man-made sources is a non-federal responsibility. Local interests are proceeding under state government direction with measures for control of man-made brine pollution at annual costs to them that will exceed annual costs to the federal government for control of natural chloride pollution. Yet OMB is taking the position that local interests should also bear part of the costs for removing the natural pollution.

RED RIVER WATERWAY (INDEX, AR TO DENISON DAM, TX) BANK STABILIZATION

Widely fluctuating stages and high flows during the past several years have caused sharp increases in bank caving along the Red River from Index, Arkansas to Denison Dam. This accelerated bank caving has caused the loss of valuable vital improvements and non-replaceable prime agricultural lands. Flood control structures and levees are also endangered. These structures protect the Red River Valley and its citizens from disastrous floods. The bank caving rate is progressively increasing.

These disastrous losses can be stopped by a systematic program of bank stabilization. Progressive construction of such a program is absolutely essential to the safety, growth and well-being of the Red River Valley and to further delay this vitally needed protection would be short-sighted indeed.

In view of the fact that construction of bank stabilization is so badly needed, the Red River Valley Association strongly urges that the sum of $240,000 be appropriated for this authorized project in Fiscal Year 1982 to continue preconstruction planning work.

MISSISSIPPI RIVER AND TRIBUTARIES FLOOD CONTROL PROJECT

The Red River Valley Association is delighted to endorse the Mississippi

River and Tribuatries Flood Control Project including all of its features and components and stress the importance of aggressively completing all features, particularly as it related to the Red River Basin and its improvements. As a major tributary to the Mississippi River and Tributaries Flood Control Project, the Red River Valley Association wholeheartedly endorses the flood control and navigation improvements of the MR&T Project and necessary appropriations for completion.

RED RIVER WATERWAY

The River and Harbors Act of 1968 authorized the Red River Waterway project featuring a navigation channel from the Mississippi River to Shreveport, Louisiana and Daingerfield, Texas and stabilization of the banks of Red River from Denison Dam to the Mississippi River. Construction is in progress.

Completion of the Red River Waterway will significantly boost the economy throughout the river basin and reduce widespread unemployment of the area. Average annual shipping on the waterway is expected to be at least 8.3 million tons and estimated benefits are the staggering amount of $63,114,000 annually. This type of progress can not be denied citizens of the Red River Basin and the nation.

The Red River Valley Association urges Congress to appropriate $ 140,000,000 construction funds for the waterway and provide future adequate funding levels so that the project can be completed as planned in 1988 without delays, and further, we urge adequate funding be provided for preconstruction planning on the waterway segment from Shreveport, Louisiana to Daingerfield, Texas and $ 300,000 for planning on the reach of Red River from Shreveport to Index. These funding levels are required for Fiscal Year 1982 to result in comprehensive coordinated advancement of these basin-wide features. Planning on the upper reaches must be accomplished in order that construction can be completed on a timely basin to compliment the navigation channel at about the same time it becomes operational so that maximum basin benefits be be provided simultaneously.

RED RIVER, EMERGENCY BANK PROTECTION

Even though Federal projects have been authorized for flood control and navigation, many active caving banks cannot be stabilized because they are not yet sufficiently advanced or not included in earlier authorizations. The result is continuing rampant destruction of valuable lands, threatening vital flood control facilities and endangering high-cost improvements, such as, bridges, pipelines, highways, railroads, utilities, cities and towns.

It is urgent that adequate funding of the item "Emergency Bank Protection" be continued to construct bank stabilization works as early as possible in the most critical locations instead of waiting several more years and losing many millions of dollars in damages. Further, continued neglect of these caving banks will substantially worsen alignment of the River, making future navigation realignment and stabilization much more costly and difficult. Many present caving banks have an existing alignment that is usable for the authorized navigation channel and should be preserved now.

In view of the critical needs for immediate bank stabilization at many locations along the river, and the great and unnecessary losses to caving activity which have been suffered by the people of the Red River Valley in the past, which can be expected to continue in the absence of immediate stabilization construction, the Red River Valley Association strongly urges the Congress to appropriate the sum of $ 9,800,000 in Fiscal Year 1982 for Red River Emergency Bank Protection, so that some of the more critical of these locations can be stabilized.

RED RIVER LEVEES AND BANK STABILIZATION BELOW DENISON DAM

Accelerated and new caving of the river banks of Red River has increased the threat of destruction and damage to valuable and non-replacable agricultural lands, bridges, highways, railroads, utilities, homes and other valuable resources and improvements. The accelerated bank caving rate continues to progressively increase, endangering flood structures and levees, the first lines of flood protection for the Red River Valley and its citizens.

A systematic program of bank stabilization can prevent these disastrous losses that are presently occurring. Such a program is essential to the Red River Valley and progressive construction of bank stabilization works is vitally needed to provide protection for the many improvements and flood control works below Denison Dam.

It is apparent that construction of bank stabilization is very badly needed, and the Red River Valley Association strongly urges that the sum of $ 5,990,000 be appropriated for Red River Levees and Bank Stabilization below Denison Dam in Fiscal Year 1982 to accomplish the construction of this sorely needed protection with the greatest possible speed.

ARKANSAS RESOLUTIONS

MCKINNEY BAYOU

The McKinney Bayou Drainage Project has proved inadequate to drain this watershed because of extensive clearing of agricultural land since the project was completed some 15 years ago.

The Congress authorized improvements in 1976 that will provide new outlets into the Red River at Buzzard's Bluff in Southwest Arkansas for diversion of much of the surface water from the upper reaches of the watershed. Also, the existing drainage will be enlarged and new lateral drainage flows constructed.

The Red River Valley Association urges the continued funding of this pre-construction planning at the full capability of the Corps of Engineers for Fiscal Year 1982 so that this valuable agricultural land can be adequately drained.

LOUISIANA RESOLUTIONS

WEST AGURS LEVEE

The West Agurs Levee, constructed in 1961 by local interest, is located at the northern fringe of the metropolitan City of Shreveport, Louisiana. The existing levee serves as an integral part of the main line Red River Levee and protects hundreds of acres from flooding. The Red River Below Denison Dam Project was modified by the Water Resource Development Act of 1976 to include the West Agurs Levee in its authorized flood control system.

Certain modifications and improvements to the existing West Agurs Levee are necessary to bring the levee within Federal standards prior to its inclusion in the Federal System. All local assurances set forth in the authorization have been provided by local interests, and there are no unresolved environmental problems or relocations required.

Therefore, the Red River Valley Association strongly urges that the sum of $ 70,000 be appropriated for this project in Fiscal Year 1982, so that engineering and planning may be finalized so construction of this project may begin as soon as possible.

BAYOU COCODRIE AND TRIBUTARIES
AND
BAYOU RAPIDES PUMPING STATION AT ALEXANDRIA, LA.

Bayou Cocodrie and Tributaries

This project was authorized in 1941 and provides a drainage outfall for a large area of central Louisiana, including 120 miles of drainage channel, three water control structures, and a major drainage structure in the West

Atchafalaya Basin Protection Levee. The upper 100 miles of the project extending from Rapides Island west of Alexandria, Rapides Parish, to the town of Washington, St. Landry Parish, is known as the Bayou Boeuf-Cocodrie Diversion Channel. The lower 20 miles is Bayou Courtableau.

Most of the project was completed in 1952. Since that time, as a result of extensive developments throughout this intercepted drainage area, stages in the main channel system have continued to rise and have exceeded the design water surface by several feet on a number of occasions. Under present conditions, widespread flooding of agricultural lands and extensive damages from flooding of residential areas occurs and is increasing with each passing year. There is a critical need for improvement to these drainage channels which were intercepted by construction of the Red River South Bank and West Atchafalaya Floodway Levees.

For the lower part of the project (Bayou Courtableau), at this time last year advanced engineering and design was considered to have been completed. Now it appears that additional studying of this portion of the project has been deemed necessary. The Red River Valley Association urges that these additional studies be promptly completed so that construction of this outlet can begin.

For the upper part of the project, Bayou Boeuf-Cocodrie Diversion Channel, the system is under a continuing re-study to determine enlargements and improvements that need to be accomplished in the system. It is recommended that this study be completed and improvements authorized at the earliest possible time.

Bayou Rapides Pumping Station

The Bayou Rapides Pumping Plant was constructed in 1930-31 by the State of Louisiana and the Red River, Atchafalaya and Bayou Boeuf Levee District. Pumping capacity of 100,000 gallons per minute. Located beneath the pumping station are six (6) reinforced concrete gated openings to provide drainage by gravity when Red River stages permit. During high river stages, the floodgates must remain closed.

The present pumping capacity should be increased 11 times to 1,100,000 gallons per minute which is necessary to provide reasonable protection against flooding for a 25-year storm frequency.

This pumping station is a necessary integral major structure incorporated into a complicated drainage system for the City of Alexandria and connects to the Bayou Rapides-Bayou Cocodrie drainage system and also to Red River. As a major structural feature providing for intercepted drainage resulting from Federal levee construction, it is clearly established that replacement of this pumping station with an adequate capacity is clearly a responsibility of the Federal government.

The RRVA strongly urges the Corps of Engineers to expand the existing project study "Bayou Cocodrie & Tributaries" and include the Bayou Rapides Pumping Station as a feature of the overall interconnected drainage system, with a view to authorize and construct adequate pumping and /or drainage facilities as required for this intercepted drainage area. Further, if such addition to the existing study results in drastic delay and/or funding impacts, then the RRVA recommends separate Congressional authorization for this urgently needed study.

CYPRESS-BLACK BAYOU WATERSHED

Local interests and the State of Louisiana, in cooperation with Soil Conservation Service, have advanced construction of this project to the point where many benefits are being realized. Features of the project include land treatment measures; two multiple purpose reservoirs for irrigation, recreation and municipal water supply; a comprehensive recreational facility development; and approximately 55 miles of channel improvement for flood prevention and agricultural water management; and 11 weirs, 2 pumping plants and water control structures for distribution and irrigation use of water. Those features remaining to be constructed consist of the channel improvements, weirs, pumping plants and water control structures. Through these features, the water future of Bossier Parish, Louisiana is being provided for and is necessary to meet demands of municipal growth, industrial development, major metropolitan and urban areas, Barksdale Air Fore Base and irrigation of crop lands. The construction of the remaining features of this project is being jeopardized by alterations imposed by Congress on the Bayou Bodcau and Tributaries Project, which lies immediately south of the Cypress-Black Bayou Watershed Project.

One feature of the Bayou Bodcau and Tributaries Project, as it was orginally planned, was the enlargement of Flat River from Cut Off Bayou, in southern Bossier Parish up to the southern boundary of Barksdale Air Force Base. The two projects were developed over the same time period, and the planning of the Cypress-Black Bayou Watershed Project relied on the completion of the Flat River portion of the Bodcau and Tributaries Project as its drainage outfall. Congress has now required that the project be limited to levee construction along Red Chute Bayou in the lower reaches.

The action taken by Congress was based on erroneous information furnished by a study team composed of representatives from the Council on Environmental Quality, the Office of Management and Budget, the Department of Agriculture and the Department of Army, who arbitrarily concluded that annual benefits of $125,000 in excess of projects costs were inadequate to offset the adverse environmental effects of the project. The adverse environmental effects consist of induced clearing of only 1,560 acres of hardwood bottoms and temporary loss of fishing in 11.6 miles of Flat River Channel.

The completion of the Bayou Bodcau and Tributaries project is significantly essential to the drainage of the entire Bossier Parish watershed. Until its completion, the major drainage aspects of the Cypress-Black Bayou drainage plan can not be completed and the positive impact of this phase of the project will not be felt.

The Red River Valley Association expresses its sincere appreciation for Congressional support of funding for the Cypress-Black Bayou Watershed development and recommends continued financial support necessary for completion of the project.

The Red River Valley Association also urges Congress to fund the construction of the Bayou Bodcau and Tributaries Project as it was originally authorized so that the rich alluvial bottom lands of Bossier Parish can receive the necessary flood protection and drainage relief necessary for maximum production.

BAYOU BODCAU AND TRIBUTARIES

This project was authorized in 1965 and actual construction was begun nine years later in 1974. This project, as originally planned, provided for improvements to Cypress Bayou, Red Chute Bayou, Flat River, and Loggy Bayou with construction of levees, channel enlargement and drainage structures. Some 62 miles of levee and 12 miles of channel enlargement with a number of intercepted drainage structures were to be constructed.

In March, 1977, this project, along with many other water resource projects throughout the Nation, was reviewed by the Department of the Army, at the request of the President, under new criteria for environmental, economic, safety and other factors. Although many other projects failed, this project passed all tests under the new review criteria; that is, (1) the project would have no major adverse environmental impact; (2) the project benefits exceed the project's costs even at the new 6 3/4 per cent discount rate and (3) no credible question remains to be resolved concerning the safety of the project.

In spite of the fact that this project passed all review criteria, a study team composed of representatives from the Council on Environmental Quality, the Office of Management and Budget, the Department of Agriculture and the Department of the Army, arbitrarily decided that annual benefits of $125,000 in excess of project costs were inadequate to offset the adverse environmental effects. After making this arbitrary decision, it was recommended to the President that the project be terminated.

Congress, subsequently, passed legislation allowing construction of those levees, only, which would protect against the increased stages on Red Chute Bayou caused by construction of the upper portion of the project. As a result flood protection that the Bayou Bodcau and Tributaries project would have provided to Bossier Parish, has been denied the citizens who live there. Additionally, the elimination of the Flat River channel enlargement from the project will prevent the completion of the Cypress-Black Watershed Project, an authorized PL 566 project, and the citizens of Bossier Parish will be denied the long anticipated irrigation and flood prevention benefits which would result therefrom.

Recognizing the importance and significance of this project, the State of Louisiana, Bossier Levee Dist., Bossier Parish Police Jury, and the City of Bossier City have recently let a contract for the construction of Flat River drainage improvements from Red Chute Bayou to a location 4.5 miles upstream. Planning is now underway and funding is being south for the completion of the channelization of Flat River. This work is being accomplished in such a way that necessary flood control works may be constructed at a minimal cost in the future. The levee portion of this project has been completed as far south as the Caplis-Sligo Road and it is essential that the project be completed since the project is only half complete at this time. Although local interests have initiated work on a part of the project, the size and costs of the project is such that Federal help in completing the project is necessary.

The Red River Valley Association urges that Congress fund the construction of the Bayou Bodcau and Tributaries Project as it was originally authorized and that it be funded at a level of $600,000 for FY 1982.

RED RIVER BACKWATER AREA

Certain improvements are authorized for construction to provide flood protection benefits in specific areas of the Red River Backwater Area as a part of the Mississippi River and Tributaries Flood Control Project and include:

(1) Tensas - Cocodrie Levee and Pumping Plant
(2) Larto Lake to Jonesville Area
(3) Sicily Island Area
(4) Below Red River Area
(5) Bushley Bayou Area

The Tensas-Cocodrie Levee and Larto Lake to Jonesville Projects are advanced in construction stages. For the three remaining items, administrative and environmental procedures have resulted in extensive and repeated delays, however these problems have now been resolved.

The entire Red River Backwater Area of Louisiana has suffered extreme tragedies in the flood years of 1973, 1974 and 1975 and has widespread flooding at least annually or more frequently. Protection of these specific areas which are justified and authorized should be completed promptly.

The Red River Valley Association strongly urges all members of the Louisiana Congressional delegation to support all of the above features of this project and to approve the full capability of $2,300,000 for FY 1982.

Additionally, the Red River Valley Association strongly endorses the appropriation of $ 14,200,000 for the Tensas Basin, Arkansas and Louisiana Project, in which this work is included, to utilize the full capability of the Corps of Engineers in Fiscal Year 1982 for these areas. The Association further urges that the Sicily Island and Below Red River Projects be approved immediately and prepared for construction.

ATCHAFALAYA BASIN

A number of public hearings were held by the Agency Management Group to obtain public input into the Atchafalaya Basin Water and Land Resources Study and several plans for multipurpose use of the Basin have been developed and are being considered by the Agency Management Group.

The Atchafalaya Basin is a key element in the flood control plan for the Mississippi River and Tributaries, which directly involves the Red River Basin area. Flood control is the primary purpose of the basin and the flood control capability of both the Atchafalaya Basin and the Red River Basin must be maintained and improved.

The Red River Valley Association opposes any plan for use of the Atchafalaya Basin which reduces its effectiveness for flood control. The Association does not oppose other uses of the basin, provided they do not interfere with or prevent its use for flood control purposes.

The Association favors retention of the present 70%-30% division of flows.

The Association urges that the studies being done of the basin area be concluded as soon as possible and construction of the necessary flood control works in the area be resumed immediately.

COMPREHENSIVE BASIN STUDY
CANE RIVER ISLAND FLOOD CONTROL STUDY

In June, 1956, construction was completed on the existing Red River flood control system from the City of Natchitoches, Louisiana to the Town of Marco, Louisiana, which was authorized by the Flood Control Act of 1936. The project consisted of the construction of levees on the south bank of Red River, a dam at the mouth of Cane River, enlargement of interior drainage to give protection to 135,000 acres of land in the Cane River Island area from Red River overflow.

During periods of high water, drainage gates must be closed, preventing interior drainage, and backwater flooding occurs along Cane River and Old River from the Red River. Continued development of the area and flooding in recent years, resulted in a resolution adopted by the Committee on Public Works of the U.S. Senate to re-study the area for possible further flood control measures. In February, 1978, at the urging of local interests, the study of the Cane River Island area was expanded to include the entire Cane River Basin.

The Red River Valley Association urges that this study be conducted and completed as quickly as possible so that construction of needed additional flood control devices can be accomplished in the near future.

Further, the Association recommends that the sum of $50,000 be appropriated for this comprehensive basin study in Fiscal Year 1982, so as to advance the completion of the study by one full year.

ALOHA - RIGOLETTE PROJECT

This project authorized in 1941, and constructed during the period from 1948 to 1954 provides for protection of some 58,000 acres of alluvial land during high stages of the Red River. Drainage from 340,000 acres that must flow through protected area, during lower river stages, is disposed of by gravity flow through two, 10 Ft. by 10 Ft., gated concrete drainage structure in the levee at the lower end of the project.

This protected area has continued to develop agriculturally since the construction of the project and now it appears that additional gates are needed to allow adequate gravity drainage during low river stages. As a result, local interests have requested that additional studies be made of the project, paying particular attention to the adequacy of the floodgate.

The Red River Valley Association urges that the needed additional studies be completed in a timely manner and that Congress appropriate the sum of $ 170,000 for funding these studies in Fiscal Year 1981.

BELOW RED RIVER
BACKWATER AREA, AVOYELLES PARISH

The U.S. Army Corps of Engineers in a public meeting in Marksville, Louisiana, in April of 1978, presented an acceptable flood control plan for the Below Red River Backwater Area in Avoyelles Parish.

The plan would serve the area by protecting some 221 homes and 22,650 acres of land which is home to many Avoyelles citizens and which was devastated by the floods of 1973 and 1975. That plan would also serve the area outside the levee by diverting agriculture runoff to the Red River away from Bayou Natchitoches. It would serve the public outside the levee by purchasing from willing sellers some 3,100 acres of bottom land hardwood forest to be operated by the State of Louisiana as a wildlife management area thereby protecting a national resource that is quickly vanishing from Avoyelles Parish.

The U.S. Fish and Wildlife Service and the Orleans Audubon Society have gone on record as endorsing this plan of flood protection and it has wide local support, including the Avoyelles Red River Flood Protection Association, the Avoyelles Parish Police Jury and the Red River, Atchafalaya and Bayou Levee District.

The Red River Valley Association requests that construction of this much needed flood control project be expedited and that the Louisiana Congressional delegation do all in its power to see that environmental measures are authorized as soon as possible, so as not to delay construction.

LOWER RED RIVER SOUTH BANK LEVEE

The South Bank Levee is a feature of the Mississippi River and Tributaries Flood Control Project and calls for improvement of the existing levee from the community of Hot Wells to Moncla. Construction procedures include: strengthening and enlarging substandard levee reaches, raising the levee to the designed grade, bank stabilization to protect the levee and other miscellaneous levee and roadway improvements. This levee is of outstanding importance since it protects 1¼ million acres of valuable lands and improvements from flooding. This work should be completed in a timely and orderly manner. Therefore, the Red River Valley Association endorses an appropriation of $ 3,200,000 by Congress for Fiscal Year 1982.

EASTERN RAPIDES - SOUTH CENTRAL AVOYELLES DRAINAGE PROJECT

After many years of delay, the Eastern Rapides-South Central Avoyelles Drainage Project was authorized as a feature of the Mississippi River and Tributaries Flood Control Project. Unfortunately, construction has not been started subsequent to the authorization of 1970.

Basically, this project is the upper part of a drainage system that would directly and indirectly benefit parts of the parishes of Rapides, Avoyelles and Evangeline. Specifically, more than 206,000 acres of valuable agricultural land in the immediate area of the proposed drainage project are subject to flooding.

Flooding of this acreage resulted from an act of the Federal government construction of the South Bank Red River Levee and the West Atchafalaya Basin Protection Levee which intercepted the natural drainage channels. This condition causes flooding on an average of at least four times a year.

Additionally, one large urban area--the City of Alexandria--is adversely affected by the poor drainage conditions that drastically need improvement.

There is an outstanding urgent need to begin work on this extensive project, which would traverse southeasterly from Alexandria for some 80 miles before entering the Atchafalaya Basin Floodway.

Studies have been made and public hearings have been held in Marksville and Opelousas. Therefore, the Red River Valley Association strongly urges the U.S. Army Corps of Engineers to complete is determination of possible alternatives and reach a final decision as to the recommended solution without making additional studies and incurring futher delays so that construction can begin as quickly as possible. Further, the RRVA recommends appropriation of $ 100,000 in Fiscal Year 1982 to complete the remaining preconstruction planning and begin construction.

LOWER RED RIVER LEVEES

The South Bank Levee in the Red River, Atchafalaya and Bayou Boeuf Levee District, from Boyce to Moncla, is a feature of the Mississippi River and Tributaries (MR&T) Flood Control Project, but the lower few miles of this same levee from Moncla to Lake Long is under different authorization, precluding the benefits of the MR&T authorization to the people and property in the protected area.

The North Bank Levee of Red River, in the same Levee District does not benefit from the MR&T authorization, although they also protect the lives of many people and vast areas of farm land and improvements.

Both the South Bank and the North Bank Levees of the Red River are part of a continuous protective system and the lower few miles from Moncla to Lake Long are a part of that system. There is no justification for treating the lower portion of the Red River Levees in any different manner than other portions of the Red River Levee system.

The Red River Valley Association recommends that the Congress of the United States authorize the Corps of Engineers to review the present authorization of these levee systems, with the view of including the lower portions of them in the same MR&T authorization as the South Bank Levee, so as to provide equal benefits and protection to the people and property in those areas.

LARTO LAKE - SALINE AREA, LOUISIANA

Many changes have occurred in the usage of lands, drainage patterns, vegetative cover, flooding frequencies and other factors in the Larto Lake-Saline Area in recent years. These changes were brought about by actions of both the private sector and governmental agencies and have resulted in serious water quality problems in the area. On January 22, 1973, the Senate Public Works Committee adopted a resolution providing for a comprehensive study of these problems by the U.S. Army, Corps of Engineers.

The Red River Valley Association requests that the sum of $ 500,000 for this study be provided by the Congress in Fiscal Year 1982 to utilize the full capability of the Corps of Engineers under the item Larto Lake - Saline Lake Area.

OVERTON-RED RIVER WATERWAY, LOWER 31 MILES

Construction of channel improvements in the lower 31 miles of the Overton-Red River Waterway Project, which forms an integral part of the Red River Waterway Project plan, was commenced several years ago, and is continuing. Improvements in this reach are important to both the Red River project and the project for navigation on the Ouchita-Black Rivers. In order to advance this work as much as possible and insure completion in ample time to provide the needed navigation outlet to the Mississippi River system, the Red River Valley Association urges the Congress to provide sufficient funds to utilize the full capability of the Corps of Engineers on this work in Fiscal Year 1982, which amount is $ 5,200,000.

HYDRO ELECTRIC FEASIBILITY OF RED RIVER LOCKS AND DAMS

At the time the Red River Waterway Project was authorized, the need for energy was not of paramount importance to the welfare of the nation and therefore the incorporation of power as a feature of the navigation project was not feasible. Due to the energy shortage and the need for additional low cost energy to supplement our resources and make the U.S. less dependent on foreign sources, it is now feasible to consider the incorporation of power as an important feature of the locks and dams. There, the Red River Valley Association strongly recommends and urges the U.S. Army, Corps of Engineers to immediately review and study the justification of power in these Locks and Dams and to modify the plans of said Locks and Dams while being designed so that the full benefits of the project can be realized and the energy problem improved. Be it further resolved that the U.S. Army, Corps of Engineers, and the U.S. Dept. of Energy be contacted and urged to immediately take action.

OKLAHOMA RESOLUTIONS

REMOVE "LEOPARD DARTER" FROM ENDANGERED SPECIES

Be it resolved, the the Red River Valley Association expresses violent opposition to putting the "Leopard Darter" on the list of endangered species.

This little fish can be found in every branch, creek, river and lake in all of the watershed of the Little River system, in Southwest Arkansas and Southeast Oklahoma. It would be impossible to destroy this species in the above area.

LUKFATA PROJECT, OKLAHOMA

Lukfata Lake on Glover Creek in central McCurtain County in southeastern Oklahoma was authorized by the Flood Control Act of 1958 as a component of the six-reservoir system for flood control in the Little River Basin. All of the reservoirs except Lukfata Lake have been completed. Without the Lukfata project, the system does not function as planned.

Preconstruction planning for Lukfata Lake has been suspended and construction has been deferred indefinitely because the project failed to pass President Carter's 1977 review of water resources projects. It failed because its adverse environmental impacts were expected to outweigh its monetary benfits. Glover Creek, as well as other streams in the Little River system have been officially declared critical habitat for the threatened leopard darter species.

The Red River Valley Association believes that because of recent changes in political, economic and environmental views, further study would show that a project at the authorized site would prove desirable.

PARKER LAKE, OKLAHOMA

Parker Lake in Muddy Boggy Creek, Oklahoma, is an early action project recommended in the Red River Below Denison Dam Comprehensive Basin study.

The project would provide protection against the standard project flood, a dependable water supply of 42 million gallons per day for municipal and industrial uses and minimum recreation facilities.

The project would have a benefit-to-cost ratio of 1.2 to 1.

A report recommending construction of the project is being processed by the Office of the Secretary of the Army prior to being transmitted to the Water Resources Council and the Office of Management and Budget and the Congress.

The Red River Valley Association considers the Parker Lake project to be a desirable element in the development of the Red River Basin, and supports the proposed construction of the Parker Lake Project. The Red River Valley Association requests that the Congress authorize construction of the project and appropriate $ 100,000 for preconstruction planning.

RED RIVER AND TRIBUTARIES ABOVE DENISON DAM

It is requested that funds in the amount of $ 350,000 (Corps capability) be appropriated for continued efforts toward completion of feasibility studies for water resources development on the North Fork of the Red River below Altus Dam and on Rush Creek near Lindsay, Oklahoma. Major emphasis should be concentrated on bank caving, irrigation, flood control and water supply for the North Fork of the Red River Study as requested by local residents. Other water and related land resources problems and needs should also be considered and formulated and evaluated.

The purpose of the study on Rush Creek Basin will be to determine the water and related land resources problems and needs, with emphasis on adequate water supply for the cities of Chickasha and Lindsay, Oklahoma. The city of Pauls Valley, Oklahoma, has indicated a need for additional flood protection. Various alternative solutions should be formulated and evaluated and recommendations made based on social, economic and environmental effect. The Red River Valley Association and the cities of Chickasha and Lindsay, Oklahoma, support and endorse the studies.

NAME CHANGE - CLAYTON LAKE

The Red River Valley Association joins the townspeople and businessmen of Clayton Oklahoma in stronly urging Congressman Wes Watkins, Senator David Boren and Senator Don Nickles of Oklahoma to resist the move afoot to change the U.S. Army Corps Clayton Lake name to Sardis Lake.

To change the lake name, will have a negative economic effect on the small town of Clayton, Oklahoma. All of our recent studies show this to be a fact in Clayton's situation and has been proven in other cases.

This costly and unnecessary name change is directly contrary to the economy drive in Congress and could divert lake funds intended for important projects on Clayton Lake to other endeavors.

There is a law at present prohibiting any two Corps lakes in the continental limts of the U.S. of having the same name. There is a Sardis Lake and Reservoir in Northern Mississippi. This lake name change could set a precedent throughout the country that could prove costly and troublesome in the future.

Therefore, we urge the Oklahoma Congressional Delegation to retain the name of Clayton Lake, Clayton, Oklahoma.

TEXAS RESOLUTIONS

LAKE MARSHALL

A feasibility study of the Cypress Basin to include an investigation of the proposed Lake Marshall was authorized and funded by Resolution of the Committee of Public Works and Transporation, May 9, 1979.

The investigation is underway and is expected to take four years to complete.

The Red River Valley Association supports the USCE in this endeaver.

COOPER LAKE AND CHANNELS

The Cooper Lake and Channels project was authorized by the 84th Congress on August 3, 1955 for the construction, maintenance and operation of the project to provide flood control, recreation and water supply benefits to the citizens of this nation. The U.S. Army, Corps of Engineers, with three local entities, Sulphur River Municipal Water Districts, North Texas Municipal Water District and the City of Irving have been attempting to build this project which is now under a Federal Court Injunction for modifications to the Environmental Impact Statement that was ruled inadequate by William Wayne Justice on Demceber 12, 1978.

The Corps of Engineers is attempting to make these modifications on the Cooper Lake project which is desperately needed by the local participants for water supply and by the City of Texarkana for replacement flood control storage in Lake Wright Patman, therefore, the Red River Valley Association fully supports the Cooper Lake and Channels Project and encourages the Congress, the Corps of Engineers and the Federal Courts to use every effort to have the injunction removed so that the project can continue to completion for the benefit of the area and the nation.

N.E. TEXAS RESOURCE CONSERVATION & DEVELOPMENT

The Executive Committee of the Northeast Texas Resource Conservation and Development Area, that comprises the entire area and population of Bowie, Red River, Delta, Lamar and Fannin counties in Texas, submits the following resoltuion pertinent to the continued effects of the Resource Conservation and Development Program (RC&D) for the afore mentioned area as administered by the Soil Conservation Service, an agency of the United States Dept. of Argiculture to wit:

The Northeast Texas RC&D Area (hereafter called NETRC&D) has enjoyed an excellent relationship with the Red River Valley Association for many years and the NETRC&D expresses their appreciation for the support that the Association has given to the previous resolutions submitted from NETRC&C; and

The NETRC&D Board of Directors is keenly aware of the need and potentials for the conservation and development of the natural and human resources of the Red River Valley and have studied in detail the problems and the need for resource development of its area, especially pertaining to the sediments deposited from the bank sloughing of Red River and from the erosion of soils in the drainage area of the Sulphur River.

The Red River Valley Association pledges its full support and cooperation to secure federal funds and authorizations to provide needed technical and financial assistance to carry out a program that will help solve the natural and human resource problems within NETRC&D.

BIG PINE LAKE, TEXAS

The Big Pine Lake, Texas, project was authorized by the Flood Control Act of October, 1962, and the project is ready for construction and the completed preconstruction planning work has provided for a balance of environmental preservation with economic development from the water supply, flood control, recreation and fish and wildlife project purposes whereas, the supply of water from this project is necessary and essential to the life and livelihood of every citizen of our area.

The Red River Valley Association supports the plan and requests the Congress to fund the project in accordance with the Corps of Engineers capability for construction.

RED RIVER BANK STABILIZATION ABOVE LAKE TEXOMA

Thousands of acres of America's most productive farm lands along the banks of the Red River and some of its tributaries above Lake Texoma are being destroyed annually. This staggering depletion of the nation's most fertile lands caused by bank caving can be stopped by a systematic program of stream bank stabilization.

A stream bank stabilization program will also project flood control structures and avert relocation of valuable public and private facilities such as highways, levees, railroad bridges and other industrial facilities.

The states of Oklahoma and Texas have in the last 30 years lost thousands of acres of fine fertile land by sluffing and caving of the river banks. There are no states in any section of the country today that can continue to stand the economic impact of such a loss as occurs annually on this river.

The Red River Valley Association urges the federal government, through the U.S. Corps of Engineers, to move forward on the most vital program of bank stabilization above Lake Texoma.

LAKE WICHITA - HOLLIDAY CREEK

Holliday Creek flows from Lake Wichita through the City of Wichita Falls, Texas. The creek floods an average of twice annually causing average damages of about $2,000,000 to a highly urbanized area. Lake Wichita Dam is located on the south side of Wichita Falls. The dam has been declared unsafe by the

State of Texas and the Corps of Engineers. If the dam were to fail, extensive damage and possible loss of life could occur in the City of Wichita Falls.

The Corps of Engineers, after an intensive study, has designed a project which, if constructed, would protect the citizens of Wichita Falls from the 100-year flood event. The project consists of rebuilding the existing dam and channelizing Holliday Creek through the City to the Wichita River (about 9.3 miles). The benefit to cost ratio for the plan is 1.9 to 1.0 The City of Wichita Falls supports the plan and has agreed to pay the non-Federal share. There are no adverse environmental impacts associated with the plan.

DAYS CREEK - NIX CREEK

This project is proposed to include major channel improvements to Days Creek and its tributaries. These tributaries include Cowhorn Creek, Swampoodle Creek, Waggoner Creek, within the corporate limits of Texarkana, Texas and Nix Creek within the corporate limits of Texarkana, Arkansas. Flooding on Days Creek and its tributaries has caused frequent inundation of land, residences, businesses and industries situated within this area of Arkansas and Texas.

A plan has been prepared by the Corps of Engineers for the improvement of Days Creek and its tributaries to reduce flooding within the two cities and the surrounding area. The governing bodies within this area have officially indicated their ability and willingness to meet the terms of local cooperation for the proposed project as prescribed by the Corps of Engineers and have spent much of their own funds in acquiring rights-of way for the proposed project.

The Red River Valley Association believes that the new cost benefit study, now being conducted, will result in demonstrating this to be a viable and necessary project and one which will have significant impact on this bi-state area.

The Association, in convention assembled in Bossier City, Louisiana, on February 16, 17 and 18, 1981 urges that Congress appropriate the necessary funds to support the full capability of the Corps of Engineers in proceeding with the Phase I Design memorandum stage of advanced engineering and design of the Days Creek unit of the projects for flood control as previously authorized.

STATEMENT OF OFFICE OF PUBLIC WORKS, LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

The Louisiana Department of Transportation and Development, Office of Public Works is the agency designated to represent the State of Louisiana for the coordinated planning and development of water resources including flood control, navigation, drainage, water conservation, and irrigation projects. Therefore, this statement is presented on behalf of Governor David C. Treen and the State of Louisiana. We are pleased to present the following endorsements and recommendations for Fiscal Year 1982 appropriations for Louisiana projects in the Red River Basin.

RECOMMENDED APPROPRIATIONS FOR RED RIVER BASIN PROJECTS
FISCAL YEAR 1982

LOUISIANA PROJECTS	BUDGET ALLOWANCE		LOUISIANA REQUEST
Construction			
Bayou Bodcau & Tributaries	$	600,000	
Lower Red River-South Bank Red River Levees	700,000		3,200,000
Overton Red River Waterway, Lower 31 Miles		5,020,000	
Red River Emergency Bank Protection	5,500,000		9,800,000
Red River Levees & Bank Stabilization Below Denison Dam		5,990,000	
Red River Waterway, Mississippi River to Shreveport, LA	27,000,000		See Page 2
Planning			
Red River Waterway, Shreveport, La. to Vicinity of Index, Ark.	30,000		300,000
West Agurs Levee, LA		70,000	
Studies			
Aloha-Rigolette Area	-0-		170,000
Red River Below Denison Dam, Comp. Basin Study		120,000	
Operation and Maint[illegible]e			
Bayou Bodcau Reservoir	610,000		710,000
Bayou Pierre		32,000	
Caddo Lake		451,000	
Red River Waterway, Mississippi River to Shreveport, LA		1,491,000	
Wallace Lake	256,000		436,000

NOTE: The projects listed above are only those in Louisiana and directly affecting the State. We realize that there are others outside of Louisiana that are vitally important to the Basin and we endorse the recommendations of the Red River Valley Association.

RED RIVER WATERWAY, MISSISSIPPI RIVER TO SHREVEPORT
(Budget: $27,000,000)

The Red River Waterway Project was authorized in 1968 by the 90th Congress only after it was given the usual series of examinations and tests of its cost-benefit aspects which are unique to water resources projects and are not required of other types of programs. The project was found to comply with these requirements and to be amply justified even though these analyses do not allow credit for some types of benefit which are none the less real. The increased availability of water supplies for municipal and industrial use and the hydro-power benefits of the project have not even been fully assessed. In spite of these omissions, the project was still found to be justified both from the economical and environmental view points.

The magnitude of local participation in the project is very large compared to similar projects in other areas. The Red River Waterway Commission of Louisiana has expended more than $8 million for right-of-way purchases and other local participation requirements since the project began. Additionally, local interests through police juries, city governments, and port authorities have expended significant amounts in preparation for the development of adequate port and harbor facilities, looking forward to the day when commercial navigation is a fact on the Red River.

Extensive benefits of the navigation project in the areas of flood control, bank protection, reduced sedimentation, water supply, fish and wildlife, and valley-wide developments will result from completion of the waterway. The Red River Basin is one of the last major river basins in the United States remaining to be developed and Louisiana has coordinated with the States of Arkansas, Oklahoma, and Texas in developing the navigation project. The area encompassing the Red River Basin in Louisiana and adjacent states is economically depressed and suffers chronically from low employment. Major industries have not developed in the basin because of lack of navigation factilities and the uncertainty of river bank stability

The State of Louisiana feels that the President's goal of a balanced budget is a worthy objective and is in the best interests of the country at this time. We feel, however, that this project is bearing an inordant share of the budget cuts required to achieve that goal compared to other programs and water resources projects in other areas. We request that the people of the Red River Basin not be required to bear a greater share of this reduction than those in other areas in the drive to get federal spending under control, and ask only that this project be funded at the same level as other projects and programs.

RED RIVER, EMERGENCY BANK PROTECTION
(Budget: $5,500,000 Request: $9,800,000)

Thousands of acres of productive land are lost to the river each year and improvements must be relocated or abandoned when threatened by caving banks. Authorized under the River and Harbor Act of 1968, this emergency program treats major meanders and corrects misalignment prior to the time when normal construction funding becomes available. The funding recommended by the President will continue one revetment project and complete four more, while providing funding for cultural resource preservation and required engineering. The additional funding requested will provide for work at four additional locations and will advance completion of the project by one year.

BAYOU BODCAU AND TRIBUTARIES
(Budget and Request: $600,000)

The State of Louisiana concurs in the recommended appropriation of $600,000 for this project in Fiscal Year 1982. These funds would be used to continue planning on the project.

Construction of the authorized plan of improvement was halted after the project fell victim to the "Hit List" some four years ago. The Corps of Engineers has been directed to further study the project to determine if modifications are necessary, and the results of this study are expected in late 1982.

The project as originally formulated has a favorable cost-benefit ratio, has been shown to be amply justified, and would be tremendously beneficial to the project area. It is our request that the necessary approval be given to resume and complete the construction of the original project. In the alternative, and only if the requested approval cannot be given, the project must be funded at a level which will allow for completion of the re-study activity as soon as possible.

Because of the critical need for the improvements, local funding was obtained and a portion of the work was undertaken by local interests after the Federal construction work was halted in 1978. We believe this shows not only the need for the project but also the willingness of cooperation from local interests.

ALOHA-RIGOLETTE AREA
(Budget: -0- Request: $170,000)

During high stages on the Red River, the Aloha-Rigolette project provides protection to some 58,000 acres of alluvial land. Storm runoff from the Aloha-Rigolette area enters the Red River through a floodgate in the levee just above Pineville, Louisiana. The existing floodgate structure is inadequate and as a result, much of the area floods after moderate rainfall. Since construction of the project, the protected area has continued to develop agriculturally and as an urban area. The need for additional gates is even greater than in the past. Local interests requested that additional studies be made of the project with particular attention to the adequacy of the floodgate. As a result of these requests, a study was begun by the Corps of Engineers in Fiscal Year 1980. No funds are included in the Fiscal Year 1982 budget for this study. We request an appropriation of $170,000 for this item in Fiscal Year 1982 so this important study can be continued.

LOCAL CONTRIBUTIONS FOR FLOOD CONTROL

Louisiana has always done its part in cooperation on flood control in the Red River Basin. Beginning with the creation in 1879 of the State Board of Engineers, the forerunner of today's Office of Public Works, the State has coordinated the flood control development program which has expended a total of $81,687,033. This expenditure when adjusted to 1979 dollars amounts to $513 Million. This not only meets but exceeds any National Water Policy for local participation of which we are aware.

The State of Louisiana, its Office of Public Works, in particular, wishes to commend the Appropriations Sub-Committees on Energy and Water Development and express our appreciation for the foresight and understanding exhibited in the past of the need for authorizing adequate levels of appropriations for water resources projects which are vital to the national interest. We solicit your further consideration of the recommendations presented herein.

STATEMENT OF NORTHEAST TEXAS MUNICIPAL WATER DISTRICT

The Northeast Texas Municipal Water District is a political sub-division of the State of Texas established under Article XVI, section 59 of the Texas Constitution. The District is empowered to fully develop the water resources of the Cypress Basin and by contract with the U. S. Army Corps of Engineers owns the 251,000 acre foot conservation storage area in Lake O' the Pines, Northeast Texas, Cypress Creek tributary of the Red River.

Lake O' the Pines is the proposed head of navigation pending the ultimate completion of the navigation feature of the Red River Waterway project, its early completion is vital to the orderly economic development of the entire region. The abundance of lignite and major iron and steel related industries make up an economic complex vital to the national welfare.

The District does not at this moment have a special interest request for funding, our appearance here today is to lend our continuing support to the efforts that the entire project be adequately funded in the ensuing fiscal year.

We respectfully submit this request for your most careful consideration of the full funding of all projects more specifically set out in the primary request of the Red River Valley Association presented this date.

STATEMENT OF RED RIVER COMMISSION OF ARKANSAS

RED RIVER BANK STABILIZATION, INDEX, ARKANSAS TO DENISON DAM

Last year, the Congress provided the initial pre-construction planning money for a comprehensive stabilization project to be developed between Index, Arkansas, and Denison Dam. It was appropriate that this planning began inasmuch as the planning just downstream from Index, Arkansas, to Shreveport, Louisiana, had been underway for approximately five years. The capability of the Corps of Engineers for continued planning of this project during FY 82 is $240,000, but the President's budget request contains no funds for this planning. If restraint in spending is needed, perhaps the level of funding should be reduced, but to completely eliminate funding is a waste of the planning heretofore accomplished and clearly not prudent or economical. This reach of the river has virtually no levee systems, although bank caving is almost as severe as the caving downstream. We, therefore, earnestly request funding of this project in the amount of $240,000 for continued planning, or at a reduced figure, but in all events at least $100,000.

McKINNEY BAYOU

The Congress authorized this project in 1976 to provide a new outlet for surface drainage at Buzzards Bluff on the Red River, to deepen and widen the present channels, and to provide new lateral drainage canals. The thousands of acres cleared and converted to farm land since the present ditch was constructed makes this drainage project vital to the McKinney Bayou Watershed. Following heavy rains, the surface drainage is grossly inadequate and causes the damage to many crops each year along the present canal. This is a joint project of Arkansas and Texas, and we join with the State of Texas and the present administration in seeking funding for FY 82 to continue pre-construction planning in the amount of $200,000.

RED RIVER EMERGENCY BANK PROTECTION (LOUISIANA, OKLAHOMA, ARKANSAS AND TEXAS) AND RED RIVER LEVEES AND BANK STABILIZATION BELOW DENISON DAM (TEXAS, ARKANSAS AND LOUISIANA)

At best, construction of the Red River Waterway, Shreveport to Index, is a number of years away, and the Red River will not abate its persistent habit of bank caving to wait for the construction of that project. The only interim treatment to this problem is the important work accomplished by these two programs. The completion of these projects is also economically justified, as they are also compatible with the comprehensive bank stabilization program to be accomplished in years hence. At several places on the Red River in Arkansas, the levees were set back three and four times before the bank was finally stabilized with funds from these projects. We urge your consideration of funding the Red River Emergency Bank Protection at $9,800,000, rather than the lesser sum contained in the President's budget request, and we join in the President's budget request for funding in the amount of $5,990,000 for the Red River Levees and Bank Stabilization Below Denison Dam.

ARKANSAS-RED RIVER BASIN CHLORIDE CONTROL (OKLAHOMA, TEXAS AND KANSAS, AND TEXAS AREA VIII)

There are ten natural pollution areas within the upper Red River Basin which deposit so much chloride in the river that it is unusable for irrigation during many times of the year. The Corps of Engineers has estimated that 7,000 tons of salt pass Index, Arkansas, each day suspended in the waters of the Red. Our country has become more aware of the need to conserve its natural resources in the past few years and certainly the continued orderly removal of chloride from its rivers should be pursued by the Corps of Engineers with funding made available by the Congress. We are pleased to join with our sister states in the Red River Valley in support of the President's budget request for funding of the completion of Area VIII by an appropriation of $12,840,000 and by continued pre-construction planning for removal of the pollutants from the remainder of the basin by funding in the amount of $595,000.

RED RIVER WATERWAY, MISSISSIPPI RIVER TO SHREVEPORT, LOUISIANA

It is a pleasure to support the request of the State of Louisiana for continued funding of the Red River navigation project from the Mississippi River to Shreveport. We know that the Red River Valley will never reach its potential unless this navigation project is promptly completed. We recognize the need of the present administration and the Congress to make reductions in expenditures in the next fiscal year, and we stand ready on this largest request for funding to take our proportionate reduction. However, we point out that the reduction requested in the President's budget is in no way fair or proportionate to the reductions that the Congress must make. We, therefore, request funding of this project at a level that will economically continue construction without delaying the project so that the cost becomes unbearable. The State of Arkansas is now working diligently to raise the non-federal costs for the continuation of the comprehensive bank stabilization project upstream as a predicate of what we hope will hereafter be the authorization of navigation from Shreveport to Index.

GENERAL STATEMENT

As attorney for the Red River Commission of Arkansas, I wish to express our appreciation to the members of this committee for allowing us to detail the water related needs of Southwest Arkansas for the 14th consecutive year. Due to the concern and foresight of this sub-committee, the full Appropriations Committee and the Congress, substantial improvements have been initiated and completed in the Red River Valley of Arkansas during the past two decades. During this time, Millwood, Gillham, Dierks and DeQueen Dams have been completed on the tributaries of the Red River in Arkansas which have sharpely reduced the threat of flooding which was so prevelent earlier this century. These flood control measures have, however, created the side affect of accelerated bank caving, even though substantial improvement has been made during the 70's due to numerous bank stabilization works and projects.

We are pleased to have the officers of the Red River Commission of Arkansas and others present at these hearings to join with representatives from the States of Louisiana, Oklahoma and Texas. For the preservation of our natural resources and the continued development of the water resources of this fertile valley, we request funding of the following projects in Southwest Arkansas, as well as those affecting all four states bordering the Red River.

RED RIVER WATERWAY PROJECT, SHREVEPORT, LOUISIANA, TO INDEX, ARKANSAS

Pre-construction planning and design have been underway on this project for the past five years, and we ask your continued funding so that the planning can be completed in an orderly fashion. Although the Emergency Bank Protection and Red River Below Denison Dam projects are vital to save valuable farm land and public facilities, those improvements will be less than fruitful if the comprehensive bank stabilization program does not proceed from planning to construction. Well over 1,000 acres of the most fertile farm land in the south are lost forever annually between Shreveport, Louisiana, and Index, Arkansas, to the Red River to wash ashore as sand bars downstream, and this is a loss of resources we can ill-afford. Although we recognize the efforts of Congress to reach a balanced budget, and the need for austerity in all federal projects, including water resource development, we do not believe that a reduction from $300,000 to $30,000 for planning of this program is the place to accomplish a savings. In fact, it is abundantly clear that the attenuate delay of such proposed funding would drastically increase the cost of construction. We, therefore, request a $300,000 appropriation for the orderly and economical continuation of planning.

STATEMENT OF TEXAS DEPARTMENT OF WATER RESOURCES

The Texas Department of Water Resources respectfully submits the following testimony regarding Corps of Engineers public works projects located in the Red and Sulphur River Basins and Cypress Creek Basin in the State of Texas.

Responsibility for Statewide planning and development of water resources rests with the Texas Department of Water Resources. The Department has been statutorily designated as the State agency to cooperate with appropriate agencies of the Federal government and with other State and local governmental entities in matters relating to water resources development. In order to assure orderly development and management of the State's water resources, the Department has formulated and adopted a comprehensive Statewide plan known as the "Texas Water Plan", which under Texas statutes serves as the official guide for future water development in Texas.

The plan indicates the need for specific projects, including alternatives, to meet the State's water needs and to provide for State, regional, and National economic growth and stability. The Department of Water Resources maintains a continuing planning program in order to keep the plan current to address changing economic, social, hydrologic, and environmental conditions in the State. The projects which we offer testimony on to this Subcommittee are all integral elements of the State's water plan.

ARKANSAS-RED CHLORIDE CONTROL PROJECT

The Arkansas-Red River Basins Chloride Control Project, which is directed toward the improvement and preservation of water quality in the states of Texas, Oklahoma, and Kansas, is imperative if full utilization of these surface-water supplies is to be realized. Presently, more than 1,000 miles of streams in each of the two river basins are severely contaminated by natural brines. Consequently, waters of the streams are not suitable for municipal and most industrial and agricultural purposes. Large volumes of salt enter the streams from 15 natural sources, 10 of which are located in Texas. There exists an immediate need for good quality water within and to the west of the areas of natural salt pollution, and a large potential need exists downstream from the areas in the eastern part of the Red River Basin.

The Corps has indicated the capability to expend $595,000 for the continuation of preconstruction planning and design of this urgently-needed project in fiscal year 1982. The Texas Department of Water Resources strongly urges that this capability for fiscal year 1982 be funded in order that the quality of water supplies within the problem areas and in Lake Texoma on the main stem of the Red River can ultimately be improved and put to full beneficial use.

Additionally, Section 74 of the Water Resources Development Act of 1974 authorized initiation of construction of natural salt-control facilities within the Wichita River Basin, Texas, a tributary of the Red River and identified as Area VIII of the Arkansas-Red Chloride Control Project. These natural salt-contributing areas adversely affect the quality of water stored in Lake Kemp, a water supply and flood control reservoir located on the main stem of the Wichita River, to the point that the supply is unsuitable for many beneficial uses, including municipal water supply. The quality of water cannot be improved, and the supply cannot be fully utilized, unless construction of natural salt-control facilities is completed. The Corps has indicated a capability to expend $12,840,000 to continue construction of natural salt control facilities at Area VIII during fiscal year 1982. Funding at this level would actually advance completion of the Area VIII project by six months. President Reagan, in his budget revisions of February, 1981, has recommended that $11,900,000 be appropriated for this project in fiscal year 1982.

The Department respectfully requests that the Committee assure continuation of construction of this urgently-needed project, either at the Corps indicated capability of $12,840,000 or at the President's recommended level of $11,900,000 for fiscal year 1982.

BIG PINE LAKE

The Big Pine Lake, Texas project was authorized by the Flood Control Act of 1962. All preconstruction planning and design has been completed by the Corps of Engineers. The project, to be located on Big Pine Creek, a tributary of the Red River in Red River and Lamar Counties, Texas, would provide flood control, recreation, fish and wildlife benefits, and a firm water supply of 32 mgd for municipal and industrial use in the area.

The Corps of Engineers has indicated the capability to initiate construction of Big Pine Lake in fiscal year 1982 at an estimated total cost of $75,498,000, with first year funding needs of $1,100,000. The Department respectfully requests that the Committee appropriate the Corps' expressed capability of $1,100,000 for fiscal year 1982 to ensure availability of the benefits from the project at the earliest possible date.

LAKE WICHITA, HOLIDAY CREEK

Lake Wichita was constructed on Holiday Creek by the City of Wichita Falls, Texas in 1901. The dam and spillway, which provides partial flood protection for highly developed urban areas of the City of Wichita Falls, has deteriorated badly and the spillway capacity is inadequate to handle floods which occur in the Holiday Creek watershed. Further, the dam has been assigned a high hazard classification by the Corps under the National Dam Safety Program and has been declared unsafe by both the Corps and the State of Texas. In response to Congressional resolution and studies authorized by the Chief of Engineers, the Corps has completed studies and has recommended a plan to meet the flood control needs of the area which includes replacement of the existing Lake Wichita Dam and enlargement of the channel downstream of the dam. The City of Wichita Falls strongly supports the project and will assume all non-federal responsibilities.

The Corps of Engineers has indicated a capability to expend $100,000 in fiscal year 1982 to complete advanced planning and engineering design of the project. The Department strongly urges appropriation of the full extent of the Corps capability for fiscal year 1982.

RED RIVER LEVEES AND BANK STABILIZATION BELOW DENISON DAM, TEXAS, ARKANSAS, AND LOUISIANA

Widely-varying river stages and frequent flooding of the Red River have resulted in severe damage and substantial loss of highly productive agricultural lands along the Red River. Bank caving is increasing at an accelerated rate and channel misalinement in various reaches along the river has become critical. Measures undertaken by the Corps of Engineers, under authority of the Flood Control Act of 1946, River and Harbor Act of 1968, and Water Resources Development Act of 1976, include bank stabilization by means of revetments and dikes and channel realinement by dredging and construction of cutoffs. The Corps of Engineers has expressed the capability to expend $5,990,000 during fiscal year 1982 to continue the bank protection and stablization activities within the reach of the Red River under the jurisdiction of the Lower Mississippi Valley Division of the Corps. The Department respectfully requests that the Committee appropriate the full extent of the Corps capability to ensure continuation of these necessary measures.

The Southwestern Division, Corps of Engineers, which has jurisdiction over this project within the reach from the vicinity of Index, Arkansas to Denison Dam, Texas and Oklahoma, has expressed no capability to continue planning of the project in this reach during fiscal year 1982, citing lack of local cooperation for the project. The Department wishes to advise the Subcommittee that there is substantial interest by the State of Texas in bank stabilization and channel realinement of the Red River in the reach below Denison Dam. Legislation is currently pending in the sixty-seventh Texas Legislature which, if enacted, will provide an appropriate regional governmental entity capable of providing the Corps of Engineers with the necessary items of local cooperation for this project. The Department therefore urges the Committee to provide the Corps with sufficient funds to initiate advance planning and engineering design of bank protection and stabilization measures for this reach during fiscal year 1982.

COOPER LAKE AND CHANNELS, TEXAS

The Cooper Lake and Channels Project, located in the Sulphur River Basin upstream of Lake Wright Patman in the State of Texas, was authorized by Public Law 218 of the 84th Congress. In addition to providing 273,000 acre-feet of water conservation storage space, the reservoir will allow sufficient storage for basin-wide flood protection to convert 120,000 acre-feet of flood control space in Lake Wright Patman into water supply storage for the Texarkana water demand area.

The Department of Water Resources appreciates the consideration this Subcommittee has allowed the project in the past. The project has been subjected to lengthly delays, due in large part in recent years to litigation under the National Environmental Policy Act and subsequent alleged inadequacies in the Environmental Impact Statement. The Corps of Engineers completed a draft supplemental Environmental Impact Statement in October, 1980 and is in process of preparing the Final Supplemental EIS. Completion of Cooper Lake, which has now been delayed more than seven years due to the Federal District Court injunction issued in 1971, is essential to meet existing and future water needs of the Sulphur River Municipal Water District, City of Irving, Texas, and the North Texas Municipal Water District. The North Texas Municipal Water District includes eleven member cities in the rapidly expanding urban area of more than 530,000 residents in a 1,600 square-mile area to the north and east of Dallas, and also serves 44 other entities, including 17 customer cities, rural water supply corporations, and municipal utility districts in the region. The District faces serious, short-term water supply problems unless construction of Cooper Lake is reinitiated, since its total water supply is currently provided by one reservoir - Lake Lavon.

The Corps of Engineers has indicated the capability to expend $650,000 in fiscal year 1982 to continue construction of Cooper Lake. This project is one of the most urgently-needed water resource projects in Texas. The Department strongly urges the Committee to appropriate the full amount of the Corps capability.

LITTLE CYPRESS CREEK

A study of the feasibility of improvements for flood control, water-conservation, and other water-related purposes in the Cypress Creek Basin was undertaken by the Corps of Engineers in October, 1979 pursuant to a resolution adopted May 9, 1979 by the Committee on Public Works and Transportation, U. S. House of Representatives. This area of northeast Texas is undergoing unprecedented growth due largely to accelerated development and utilization of vast lignite resources. The occurrence of economically recoverable lignite reserves in the region has delayed construction of at least one major Corps of Engineers reservoir project in the area, thus seriously affecting the availability of firm water supplies for this region.

The current feasibility study is expected to require four years for completion. The Corps of Engineers has expressed the capability to expend $350,000 during fiscal year 1982, which would advance the study completion date by two months. The Department respectfully requests that the Committee appropriate the full amount of the Corps capability for fiscal year 1982.

MCKINNEY BAYOU, ARKANSAS AND TEXAS

Serious flooding and drainage problems within the McKinney Bayou watershed, and particularly in the Days Creek and Nix Creek drainage systems within the corporate limits of Texarkana, Texas and Texarkana, Arkansas, have been studied by the Corps of Engineers under authority granted by the Water Resources Development Act of 1976. A preliminary plan of improvements has been prepared by the Corps of Engineers, and the local governmental entities have indicated their willingness and ability to assume the necessary items of local cooperation as required by the Corps.

The Corps of Engineers has indicated the capability to expend $200,000 in fiscal year 1982 to continue advanced planning and engineering design of the project. The Department respectfully requests that the Committee fund the full extent of the Corps capability for fiscal year 1982.

RED RIVER WATERWAY, SHREVEPORT, LA. TO VICINITY OF INDEX, ARKANSAS-SHREVEPORT, LA. TO DAINGERFIELD, TEXAS

The Red River Waterway was authorized by the River and Harbor Act of 1968 and Water Resources Development Act of 1976. This reach of the project includes realinement of the Red River channel by means of dredging, cutoffs, and training works and for bank stabilization measures, with the ultimate objective of providing continuous navigation from the Mississippi River to the vicinity of Texarkana, Texas and Texarkana, Arkansas, including Cypress Bayou from Shreveport, La. to Daingerfield, Texas.

The Corps of Engineers has expressed the capability to expend $300,000 during fiscal year 1982 to continue advanced planning and engineering design for the reach of the Waterway to Index, Arkansas. Funding at this level would advance planning by 12 months. The Corps has further indicated that sufficient funds are available to continue planning of the reach from Shreveport, La. to Daingerfield, Texas. The Department strongly supports these navigation features and respectfully requests that sufficient appropriations be provided the Corps of Engineers to continue and complete the advanced planning and design of both reaches of the Waterway.

RECREATION FACILITIES AND OPERATION AND MAINTENANCE OF EXISTING PROJECTS

The Department respectfully requests appropriations to the Corps of Engineers for operation and maintenance of the following projects during fiscal year 1982: Denison Dam, Lake Texoma (Sanitation facilities)($445,000); Pat Mayse Lake (Sanitation facilities)($235,000); Arkansas-Red Chloride Control Data Stations ($65,000); Denison Dam, Lake Texoma ($3,950,000); Ferrells Bridge Dam-Lake O' the Pines ($1,525,000); Lake Kemp ($411,000); Pat Mayse Lake ($512,000); Wright Patman Lake ($1,832,000); and Caddo Lake ($451,000).

CONCLUDING COMMENTS

The Texas Department of Water Resources requests your support for and consideration of these regional water resource development needs. The Department most respectfully urges the allowance of funds as requested in order to accomplish the coordinated, orderly development of vitally-needed water resource projects in the Red and Sulphur River Basins and the Cypress Creek Basin in the State of Texas.

STATEMENT OF E. RAWLINS COLLERAIN, P.E., DIRECTOR, SHREVEPORT (LA.) WATER UTILITIES

As the State of Louisiana's second largest city, Shreveport with a current population in excess of 200,000 people is serving the Ark-La-Tex area as a regional goods and service distribution center. From its geographic location in the most northwesterly parish in the state, Shreveport has, over the years, viewed the development of its resources both natural and man made as the key to economic stability, growth and a quality of life for its residents and the residents of those surrounding communities.

In an era which has seen rampant decay of cultral core cities, population declines and economic stress, Shreveport has steadily been able to selectively develop the resources at its disposal to provide a solid, diversified economic base which has resulted in a steady manageable growth for the region.

Presently Shreveport has very effectively utilized air, rail and highway as transportation modes which has enabled it to be a viable competiative marketplace. However, the most viable of all transportation modes has been neglected; the development, or redevelopment of the water way which ironically gave Shreveport its first breath and sent it on its way as a thriving community serving tens of thousands of people daily.

FUTURE EFFECTS OF THE RED RIVER WATERWAY ON SHREVEPORT

From Shreveports perspective there are many benefits to be derived from the full development of the Red River Waterway. They are:

1. Naviagation-to provide effective low cost transportation of goods and materials to and from Shreveport. At a time when energy reserves are dwindling the economics of waterway transportation are the most efficient way to best utilize the petroleum available for the transportation of goods such material.

2. Job development-Jobs created as a result of the project construction will return to the economy future benefits through the training and stablization of the work force. Skills developed through direct work on this project will inevitably carry forward to other non-government related jobs.

   Auxillary employment related to the development of industry and business stimulated by the project will return pure private sector unsubsidized jobs which will return untolled millions of tax dollars to the federal treasury.

3. Small/Minoriy Business development-It is a recognized fact that small businesses are declining at a very rapid rate. This project will reverse that trend by creating an economic climate which will encourage small business ventures and ensure a better than equal chance of success. This can be achieved with a

mininum or no government intervention with SBA loans due to the demands for support services which always accompany projects with economic enhancements to the local economy.

Coupled with this is the development of minority business enterprises. The creation of business opportunities for minorities will allow the economic improvement of that segment of our society which up to now has been unable to compete economically in the marketplace due to an underdevelopment of business skills and in many cases lack of appropriate opportunities to develop those skills.

From Shreveports point of view this objective is very consistent with President Reagan's objective to make those who are presently tax receivers into tax producers. The Red River Waterway project is the vehicle to achieve that objective.

4. Water Resource Development-There is a myth that Louisiana has a plentiful supply of water. Like oil this resource is finite and is presently reaching a critical stage in some parts of the state. However unlike oil water is regenerated through rain so it can be reused. Only through our efforts can we take steps to develop those projects which will alow the impoundment of water tp ensure adequate resources when needed. These needs must be anticipated now and steps taken now to meet those future needs. The Red River Waterway project has a tremendous potential for helping to meet our future water needs for industry, agriculture as well as daily human consumption.

5. Bank Stablization and Erosion Control-Although an urban community, Shreveport is very concerned about the effects of erosion on the surrounding agriculture areas. Millions of cubic yards of of topsoil are being washed away each year into the river. Once lost it reduces the productive capacity of the land thus erodes part of the areas economic base. The lessons taught us by the "dust bowls" of the 30's should be restudied. The Red River Waterway project will reduce significantly the soil erosion problem and return fertile river bottom land to full productivity and reduce maintenance on existing waterways due to silt control.

6. Replacing Depleted Natural Resources-As the oil and gas resources in Louisiana are depleted over the coming years they must be replaced by other resources which will enable Louisiana to transition from one economic base to another. Water is a natural resource which if developed properly can relieve the state of a severe economic crisis when its oil reserve are depleted. We must start now to replace that economic base due to the time involved in water resource development.

7. Recreation Enhancements-Where water exists there is the potential for recreation enhancement. Shreveport is extremely interested in doing its part to make the river a part of a well balanced project serving not only the economic interests of its citizens but its leisure time needs as well.

8. National Defense-It is important that waterway development be viewed as an intergral part of our transportation systems. Interstate highways are viewed as essential to the movement of troops and military material in times of emergencies. We must look at our waterways as equal because it will serve the same purpose. In times of national emergency we will need all of our resources to cope so we must fully develop our resources so we have as many options available to us as possible.

SHREVEPORT IN PREPARATION FOR THE RED RIVER WATERWAY

There are several programs underway currently to prepare Shreveport for the completion of the project.

1. Caddo-Bossier Port Commission-In conjunction with the State, the Port Commission has begun to acquire property for a port site as well as an area for an industrial park. Over the next several years investment will exceed $40 million. This is a substantial non federal investment.
2. Southeast Park-Shreveport has purchased 585 acres on the Red River at a value of $1.2 million. The Corp of Engineers has certified that as part of the Red River Waterway project they will match the city's investment ($1.2 million) in developing this park as part of the recreation portion of the project. The city is ready at this time to develop the park and request that Congress appropriate $1.2 million for development of Southeast Park in Shreveport.

3. The City is expending in cooperation with EPA 82 million to control and treat all wastewater in anticipation of Lock and Dam #5.

4. The City in cooperation with the Corp of Engineers is studying a method for de-salinzation of the Red River to enhance the water for an alternate water supply for the city as well as for agricultural uses. Money must be appropriated by Congress for this purposes/

5. The City is actively involved with the Governor's task force on Red River development and in a coordinated Federal, State and Local effort are planning strategies to deal with
    1. Economic Development
    2. Small/Minority Business Development
    3. Individual Job Development
    4. Community Development

CONCLUSION

In summary, the City of Shreveport, Louisiana is vitally interested and enthusiastically behind the continued finding of the Red River Waterway. Cessation of this project at this time will deal a serious blow to needed services and economic development in Shreveport and throughout the Ark-La-Tex area.

The need for Federal Budget cuts is evident. However, costs in those expenditures which produce future tax revenues make little sense. For any organization to be strong and vibrant it must invest in itself. That investment will produce future returns beyond over current capacity to calculate them. Lack of such an investment can only bring deterioration and despair at a time when the country needs to go to work.

Continued funding will allow us to keep working for our country, for Louisiana and for Shreveport.

Thank you.

From the stand point of this Nation, as well as my home state of Louisiana, water is a natural resource that has not been properly managed.

Louisiana is refered to as the Bayou State. In fact, the only water we have is from the rains we receive. The balance flows to us from other areas. Due to this simple fact, we in the state of Louisiana must improve management of our water resources to increase our productivity in the areas of agriculture, industry and human use.

To better manage the waters available to the states of Oklahoma, Arkansas, Texas and Louisiana, the following projects need to be supported and completed on the Red River:

1. Desalinization
2. Bank Stablization
3. Hydroelectric Power
4. Water Transportation

Man since time immortal has been provided with four natural and readily available resources. They are air, land, water and gravity. Full development of the Red River Water Way will make the best use of these four resources at the least cost to the nation.

This great nation of ours, through the advent of Public Law 92-500 has spent untold billions to prevent pollution of our streams that we drink from and the air that we breath. These monies will have been undautilized unless we better manage the resource, called water, provided by nature.

This nation on a daily average receives 4,235 billion gallons of rain. 3,035 billion gallons return to the atmosphere through evaporation, leaving 1,200 billion gallons a day for us, as a nation to utilize. At present we only use 91 billion gallons a day to support agriculture, industry and human life. This is a utilization of only 8.3% of a natural resource available to this nation.

From a water useage stand point, the completion of the Red River Water Way Project will allow greater utilization of a resource that man can not manufacture.

"All the rivers run into the sea; yet the sea is not full." Old Testament: Ecclesiastes, i, 7.

STATEMENT OF ARLIS D. SCOGIN, FIRST VICE PRESIDENT, CADDO (LA.) LEVEE DISTRICT

This statement is presented in behalf of the Board of Commissioners of the Caddo Levee District and the people of Caddo Parish, Louisiana. It is my purpose in appearing before you today to urge that adequate funds be provided to the U. S. Army, Corps of Engineers in the coming fiscal year for pre-construction planning on the West Agurs Levee project in my district.

The West Agurs Levee is located at the northern fringe of the metropolitan area of Shreveport, Louisiana, and protects over 700 acres of light industrial lands from flooding. The existing levee was built in 1961 by local interests, serving as an integral part of the Red River main line levee system. As such it should be part of the authorized federal flood control system.

The project "Red River Below Denison Dam" was modified by the Water Resources Development Act of 1976 to include the West Agurs Levee in its authorized flood control system. However, this Levee has not yet been made part of the Federal System because it does not meet certain Federal requirements.

Improvements needed for the levee to meet Federal requirements are estimated to cost $650,000.00 and there are no unresolved environmental problems or relocations requirements. All local assurances set forth in the authorization are available. But, before construction can begin to bring this levee in line with Federal Standards, thereby allowing its inclusion in the Federal System, additional planning is needed.

On behalf of the people of the Caddo Levee District, we, therefore, urge that you appropriate the proposed budget sum of $70,000 for preconstruction planning on the West Agurs Levee Project in Fiscal Year 1982.

STATEMENT OF JOHN E. GAY, MCKINNEY, TEX.

I am John E. Gay, an attorney of McKinney, Texas. My firm represents the North Texas Municipal Water District, one of the local sponsors in the Cooper Reservoir project. I am accompanied by Mr. Robert Mansell, Administrative Assistant of the North Texas Municipal Water District.

The Cooper Lake and Channels Texas project was authorized by Congress in 1955. Water Supply Contracts were signed with the United States Army Corps of Engineers by the North Texas Municipal Water District, the Sulphur River Municipal Water District and the City of Irving, Texas, in 1968. In May, 1971, the U.S. District Court for the Eastern District of Texas, halted further construction on the project until an Environmental Impact Statement was filed with the CEQ. Since that time, the Environmental Impact Statement has filed, has been found to be deficient by the Court and supplemented by the Corps of Engineers. Final approval should be obtained within the next two months so that the project may once more get under way.

The three entities with Water Supply Contracts have all had to reevaluate their source of supply and find alternate interim sources pending the completion of the Cooper Reservoir. The Reservoir still is of vital importance for the future water supply of the North East Texas area and the project needs to proceed as fast as possible.

In the past, this committee has appropriated over $30,000.00 for the project. Most of the planning has been completed and over 98% of the land for the reservoir has been acquired. This should not go for naught. The North Texas Municipal Water District, on behalf of itself and its partners, request an appropriation of $650,000 so that this needed project can get back on track.

LOWER MISSISSIPPI RIVER NAVIGATION PROJECTS

STATEMENT OF HERBERT HAAR, ASSOCIATE PORT DIRECTOR, PORT OF NEW ORLEANS

Senator COCHRAN. Our next group of witnesses are here to discuss Mississippi River navigation projects. We are happy to welcome to the subcommittee Mr. Herbert Harr, associate port director of the Port of New Orleans; Mr. Sam Giallanza, senior vice president of the New Orleans Steamship Association; and Mr. Daniel Meyers, president, Associated Branch Pilots for the Port of New Orleans.

Welcome to the committee. We have the statements which you have prepared. We thank you for submitting these to us in advance of the hearing. We want you to proceed as you wish to discuss the concerns and interest that you have that come under the jurisdiction of this committee.

Mr. HAAR. Thank you very much. I would like to introduce Edward S. Reed on my right who is our executive director and general manager of the Port of New Orleans, who is also with us this morning in addition to the other members that you mentioned. Also with us this morning is Mr. Hayden, who is vice president of the New Orleans Steamship Association on my far left.

PREPARED STATEMENT

Mr. Chairman, I will give a brief summary of my presentation and would like to have the full presentation included in the record.

Senator COCHRAN. Yes, each of the statements will be made a part of the record.

[The statement follows:]

STATEMENT OF HERBERT R. HAAR, JR., ASSOCIATE PORT DIRECTOR, PORT OF NEW ORLEANS

1. MISSISSIPPI RIVER-GULF OUTLET, LA., NEW SHIP LOCK
It is recommended that the Congress provide $1,050,000 which represents the Corps of Engineers' capability and the figure in the President's FY 82 budget for the Mississippi River-Gulf Outlet, Louisiana, under Construction General, which includes this project. This project will result in hundreds of new jobs during construction and over 10,000 permanent new jobs during the life of the project after completion. The design for the New Lock is underway by the New Orleans District Engineer, and this project is considered the second most important navigation project in the Nation.

2. REPAIRS TO JETTIES, DIKES AND MAINTENANCE DREDGING OF SOUTHWEST PASS AND MAINTENANCE DREDGING OF THE MISSISSIPPI RIVER FROM BATON ROUGE TO THE GULF AND CONSTRUCTION OF NEW ANCHORAGE AREA
These deficiencies resulted in part in the inability of the Corps of Engineers to maintain project depth in the Mississippi River Passes during most of 1973, a good part of 1974, and from March 1 to August 4, 1975, with an impact of over $500,000,000 in foreign trade being detained at the Ports of New Orleans and Baton Rouge, during the year 1974. It is therefore strongly recommended that the full Corps of Engineers' capability of $41,873,000 for Operation and Maintenance, General Funds, be appropriated by the Congress rather than the $26,073,000 that is included in the President's FY 82 budget and that the Corps' full capability of $4,400,000 under Construction General be appropriated by the Congress which is the same figure contained in the President's FY 82 budget.

3. MISSISSIPPI RIVER-GULF OUTLET, LA., MAINTENANCE DREDGING
It is recommended that Operation and Maintenance, General Funds in the amount of $11,600,000 for FY 82 be appropriated by the Congress which is greater than the figure included in the President's budget for this item ($7,089,000).

4. FIFTY-FIVE FOOT CHANNEL FOR LOWER MISSISSIPPI RIVER
It is recommended that the Corps of Engineers be directed to develop their final plans for this project on the basis of full Federal funding as has been the case on previous deepenings of this segment of the waterway which serves all of mid America. In the event the fast track legislation is enacted then it is recommended that $4,500,000 be authorized to continue planning for this project in FY 82.

Environmental Impact Statements (EPA/CORPS)
STUDY OF DREDGED MATERIAL OCEAN DUMP SITES
It is recommended that the Corps of Engineers be provided $5,000,000 in FY 82 to insure the timely accomplishment of this project which is required under the London Ocean Dumping Convention and U. S. law.

I am Herbert R. Haar, Jr., Associate Port Director of the Port of New Orleans. I am here to testify for the Board of Commissioners of the Port of New Orleans, a unit of local government of the State of Louisiana, on six projects of vital interest to the development of Louisiana, neighboring Gulf States, and the Nation. The Port of New Orleans area is the No. 1 grain exporter in the world; the No. 2 port in the Nation with an estimated value of $15 billion in foreign commerce in calendar year 1980; and one of the top five ports in the world with 287 million tons (freight and through traffic) moving through its area in 1978. Continued growth and development of the port is being inhibited by the lack of adequate deep-water channels (40 feet actual vs. 55 feet being studied) for the larger vessels now in world commerce and also by frequent occurrences in recent years of less than authorized project depths at the Mouth of the Mississippi River caused by heavy silting in Southwest and South Passes.

The Port of New Orleans is the second port in the Nation, and the Port of Baton Rouge 125 miles upriver is the fourth. Both are entirely dependent upon timely and adequate dredging of the Southwest Pass to provide access to the Gulf. In only three years, 1972, 1976, and 1977, out of the past nine has full project depth been maintained by the Corps of Engineers at Southwest Pass for the entire high water season.

This shoaling of the mouth of the Mississippi is not just a local problem. It is of national concern with serious consequences to the economic health of the Nation. Nineteen thousand miles of inland waterways, serving a third of the United States, converge on the Port of New Orleans. More grain moves through the Port than any other port in the world. The importance of this situation is highlighted by the fact that in 1980 the estimated value of the foreign trade in the lower Mississippi River was $40 billion.

Of equal importance to improved dredging equipment is the maintenance and improvement of various structures that make up the training works of Southwest Pass. It is, therefore, strongly recommended that the full Corps of Engineers' capability of $41,873,000 be appropriated by the Congress rather than the

$26,073,000 included in the President's FY 82 budget under the maintenance project entitled, "Mississippi River, Baton Rouge to the Gulf of Mexico, Louisiana." It is also requested that the Corps' capability of $4,400,000 for FY 82 for construction of pile dikes in Southwest Pass be provided by the Congress which is the same figure contained in the President's budget for Construction, General, for this project.

A new lock to connect the Mississippi River and the Mississippi River-Gulf Outlet has been long authorized by the Congress and is in a design status. The existing 58 year old lock built by the Port of New Orleans and leased to the Corps of Engineers is in need of a major overhaul. This undersized lock, now providing this connection, has been carrying its peak design capacity tonnage for years with increasing delays experienced by waterway operators transiting the lock. The Corps has estimated tonnage demand for this lock will increase at the rate of 1 million tons per year for the next 50 years. The Governors of Alabama, Arkansas, Iowa, Louisiana, Mississippi, Oklahoma and South Dakota have gone on record previously in strong support for this project. This project is vitally important to the future of the Port of New Orleans, the entire Mississippi Valley, all of the Gulf States and has been classified by a former Chief of the U. S. Army, Corps of Engineers as the second most important navigation project in the United States.

In addition to the Mississippi River, the Port of New Orleans is serviced by the Mississippi River-Gulf Outlet. The Port's first three full container berths have been completed within the past several years and a fourth will soon be put in service, and numerous other port facilities and industries depend solely on this dredged 36 foot deep channel. The number of passages of deep-sea vessels through this channel has more than doubled in the last ten years and totaled almost 1600 passages in 1979. Deep and shallow draft vessels carrying 10 million tons of cargo in foreign and domestic commerce used the channel in 1979. Traffic in this channel is projected to increase almost 10% per year, and it is conservatively projected that this cargo will exceed 20 million tons in the next decade. It is recommended that $11,600,000 for FY 82 be appropriated by the Congress which is greater than that included under operation and maintenance general funds in the President's FY 82 budget for this item ($7,089,000) but less than the Corps' capability of $16,089,000.

A fifty-five foot channel for the lower Mississippi River from Baton Rouge to the Gulf is urgently needed to service the foreign trade and commerce of the mid America hinterland which accounts for 35% of the population; 34% of the purchasing power; 41% of the productive industry; and 40% of the employment of the United States. Over 572,181,000 tons of waterborne commerce (over one-fourth of the Nation's total) moved through this area in CY 78. Additionally, exported coal from the Port of New Orleans area was only a million and a half tons in 1979 and is expected to reach 7 million tons in 1980. But present Port of New Orleans projections (based on actual announced development projects) show that this tonnage could increase to approximately 60 million tons by 1983 and double that figure by 1990. This tremendous interest in the lower Mississippi River, between Baton Rouge and the Gulf, is directly related to the ability of the Mississippi River to transport large volumes of coal. The barge lines recognize this, and two barge lines -- The American Commercial Barge Line and The Federal Barge Line -- have invested over $55 million in modern, efficient rail-to-water transfer facilities, capable of handling 30 million tons of coal per year. The barge lines can transport this coal coming from the states bordering on the upper Mississippi River and its tributaries to the planned coal export terminals in tows of 60,000 tons each.

Peabody Coal Company submitted on February 28, 1981, to the New Orleans District of the Corps of Engineers the following partial statement in support of the deepening of the Mississippi River from Baton Rouge to the Gulf: "The Lower Mississippi River ports could control 40 percent of the U. S. steam coal export trade by 2000; coal exports in the Lower Mississippi River would rise to 20 million metric tons by 1990, 72 million metric tons by 2000; the benefit to cost ratio of the channel deepening project would increase to 8.9 to 1 by 1985 and 12.6 to 1 by 2000; sixty-two thousand total jobs would be created in the Mississippi Basin area, 31,000 mining jobs would be created; $5.2 billion in total net annual benefits would occur in the Mississippi River region and $1.2 billion in net annual benefits and 31,000 total potential jobs would be directly attributable to the deeper channel."

"Many nations of the world are beginning to look to the United States as a major supplier of thermal coal. Until recently, the U.S. has exported only insignificant amounts of steam or thermal coal. Excluding shipments to Canada, exports amounted ton only 2.5 million tons in 1979. In 1980, steam coal exports abroad grew to 16 million tons, and including Canada, topped 26 million tons."

"The U.S. has supplied major portions of the world's metallurgical, or coking coal, needs through harbor outlets on the East Coast for over 50 years. However, the availability of cheap oil and adequate supplies of thermal coal from domestic production or other coal exporters have, to a great extent, kept foreign buyers out of the U.S. steam coal market until this past year."

"Some of the reasons U.S. coal exports surged during 1980 may be temporary. Domestic unrest and economic uncertainty in Poland, labor disputes in Australia, political sensitivity about dealing with South Africa, the Iran-Iraq War, the continued rises in oil prices including the cost of tanker fuel, all contributed to the escalation in U.S. coal export demand. However, energy planners around the world predict that the world demand for steam coal will continue to rise dramatically from now through the end of this century."

"Meanwhile, our competitors are moving aggressively to advance their positions in world trade. Australia, South Africa, Canada and Poland are major exporters of coal on the world market. The first three countries will comprise the major U.S. competition for markets in Western Europe and Asia through the end of this century. These countries are moving quickly to update their port facilities and harbors, to improve shipping and loading facilities, and to enlarge the world coal fleet to achieve economies of scale. For example, Port Kembla and Newcastle, coal ports in Australia which serve primarily steam coal customers, will be able to accommodate substantially larger vessels (110,000 dwt.) by mid-1982. These very large colliers can move to Europe at costs perhaps 35-40 percent below existing costs. This would make ocean freight rates from Australia roughly comparable with present U.S. freight rates to Western Europe."

"South Africa, too, is expanding a major port at Richards Bay. It is expected to be completed by 1985. It will handle 150,000 dwt. vessels. This modern facility represents significant public and private investment to advance coal exports."

"Canada is currently engaged in negotiations to supply $400 million of coal a year to Japan -- 4.7 million metric tons of metallurgical and 1 million metric tons of steam coal. The contract is reportedly dependent upon a $1.7 billion promise of investment in mines, railroads, ports and other facilities to enable the Japanese to load coal."

"Since railroads, ports and some coal companies are government controlled in these countries, the extent of public investment is not strictly comparable with the U.S., but these events indicate a significant government commitment to the support of exporting coal."

"Other countries are moving decisively to make the public investments which will attract a greater steam coal export trade. In order to achieve its potential market share, the U.S. must also be willing to commit public resources to create the supporting structures necessary for coal export."

By lowering the delivered cost of U.S. coal through port and channel improvement, the United States enhances its competitive position. Predictions of coal buyers' market behavior are highly uncertain; however, failure to take any action to improve our ports may be viewed by potential customers and allies as inconsistent with our national commitment to make coal available for export. Finally, it should be clear that enhancing coal exports, as part of the international effort to increase the production and use of coal, produces benefits beyond those directly attributable to ocean shipping.

General Read, Division Engineer for the Corps of Engineers for the Lower Mississippi Valley Division, in his testimony before your Subcommittee recently stated that in the event congressional authorization was forthcoming in the near future for the fast tracking of the deepening of the lower Mississippi River to 55 feet that $4-1/2 million would be needed to continue planning for this project in fiscal year 1982. I would hope that if this situation develops that you gentlemen would see fit to support such a level of funding.

A critical need which is vital to the ports of this nation is early resolution of problems in disposal of dredge spoil through ocean dumping or alternate means. The conditions stem from the London Ocean Dumping Convention and the U.S. Marine, Protection Research, and Sanctuaries Act of 1972 which requires an Environmental Impact Statement for each dump site before the permit is issued. There are approximately nationwide 130 dredged material ocean dump sites which must be studied by the Corps of Engineers preliminary to evaluation by the EPA. Accordingly, it is recommended that the Corps of Engineers be provided $5 million in FY 82 for this purpose.

I have with me representatives of the New Orleans Steamship Association, Associated Branch Pilots and Crescent River Port Pilots to file and make brief statements in support of the projects that the Port of New Orleans has recommended. We especially call your attention to Capt. Meyers' of the Associated Branch Pilots testimony on the need for the Pilottown anchorage which we fully support.

LETTER FROM KARL G. MUELLER, MANAGER, AGENCY DEPARTMENT, BARBER STEAMSHIP LINES, INC.

23 March 1981

Colonel Herbert Haar
Associate Port Director
Board of Commissioners of
the Port of New Orleans

Dear Colonel Haar:

This letter is a follow-up to our recent discussion about the deepening of the Mississippi River and the need to have funds appropriated for radar control, VTS, and reporting systems--services that are needed to guarantee safe passage of ships from Southwest Pass to Baton Rouge and from Baton Rouge back to Southwest Pass, during all seasons but especially when fog and other inclement weather prevail.

Most European ports (among them Hamburg, Rotterdam and Bremen) have excellent radar and VTS systems, and they encounter very few delays during the long periods of fog in the spring and fall. I benefited by their systems during the time I sailed as a master; and I helped administer the radar system on the "RIVER ELBE" while I worked for the Port of Hamburg.

When I was in Europe on business last June, I talked with Erhard Paschburg, Captain of the Port of Hamburg. Captain Paschburg told me that Hamburg is planning changes in their radar and VTS systems. They will install a daylight radar unit combined with a VTS system. During normal weather, the installation will be manned by civil service people, and during poor weather (poor visibility), it will be manned by pilots. Hamburg thinks that such an approach is the safest and most efficient one, capitalizing as it does on the pilots' intimate knowledge of the river.

The Europeans claim that the container ship trade would not have developed so successfully without radar assistance on the waterways, and during the more than 15 years that I sailed in European waters, I encountered very few delays.

Captain Paschburg told me that Hamburg would be glad to give us more information about their set-up and advice about our own. I urge that we discuss our problems with our European counterparts and that we take advantage of their knowledge and experience. Discussions should include our pilot associations, port authority, steamship association and the Coast Guard.

In view of the coal trade, it is of the utmost importance that we act now. Coal mines will not be able to sell their coal overseas, nor will the overseas buyer send their ships to the Mississippi if they have to wait with their ships during periods of low visibility. Overseas buyers will send their ships to Australia, South Africa or other countries where they will not be delayed.

A lot of money is being spent on the dredging of the Mississippi. Let's spend the relative few dollars more that will ensure that the deepening of the river will have the effect that's intended--to get more business for the lower Mississippi area, especially from the coal trade.

Yours very truly,

BARBER STEAMSHIP LINES, INC.
(EAST GULF DIVISION)

Karl G. Mueller

PORT OF NEW ORLEANS NAVIGATION BENEFITS

Mr. HAAR. Mr. Chairman, I am Herbert R. Haar, Jr., associate port director of the Port of New Orleans. I am here to testify for the board of commissioners of the Port of New Orleans, a unit of local government of the State of Louisiana, on six projects of vital interest to the development of Louisiana, neighboring gulf States, and the Nation.

The Port of New Orleans area is the No. 1 grain exporter in the world; the No. 2 port in the Nation with an estimated value of $15 billion in foreign commerce in calendar year 1980; and one of the top five ports in the world with 287 million tons, freight and through traffic, moving through its area in 1978. Continued growth and development of the port is being inhibited by the lack of adequate deep-water channels, 40 feet actual versus 55 feet being studied, for the larger vessels now in world commerce, and also by frequent occurrences in recent years of less than authorized project depths at the mouth of the Mississippi River caused by heavy silting in Southwest and South Passes.

MISSISSIPPI RIVER, BATON ROUGE TO THE GULF

The first project that we would like to recommend are the repairs to the jetty South and Southwest Passes on the lower Mississippi River from Baton Rouge to the gulf. This new stretch of the Mississippi carries over 500 million tons of water commerce every year. That is about one-fourth of the Nation's total water commerce. This water commerce moving on this stretch of river has a value of over $40 billion a year.

The training works of Southwest Pass have been heavily damaged by storms and hurricanes and floods in past years. It now has over $100 million in damages that need to be restored.

We are, therefore, recommending—and I recognize in light of the President's program and the mood of the Congress that it is going to be difficult—but we are recommending the Corps' capability and asking $15 million for this project to take it up to the full Corps' capability. And the reason we do that is because the Corps tells us that could be amortized 2 to 3 years. We recognize we may not get this, but we feel that if it occurred in the next 2 or 3 years that we should make this recommendation. We do recognize what the situation is and we understand fully the situation that exists as we make the recommendation.

MISSISSIPPI RIVER, GULF OUTLET (NEW LOCK)

The next project that I would like to discuss is the new ship lock that is currently under advance planning by the New Orleans district Corps of Engineers to connect the Mississippi River with the gulf outlet. The existing law leases the lock to the Corps of Engineers. This lock is too small, 58 years old, it is undersized when it reaches its peak capacity. It has a need to carry additional millions of tons of commerce each year for the next 5 years and the Corps of Engineers have stated that this lock is the second most important navigation project in this country. The Corps needs an additional $27 million to continue the planning on this. This is the amount in the budget and we recommend approval of that figure.

MAINTENANCE DREDGING

The next item is the maintenance dredging on the Mississippi outlet. This is the ultimate channel in the Port of New Orleans. The President's budget is a little over $7 million for it. We are recommending $11.6 million for fiscal year 1982. We are recommending an addition to this project because of the results of the situation at Mount St. Helens and the hurricanes that hit the gulf during the past year the Corps has to divert moneys to take care of these emergencies. The moneys for 1982 were diverted from this project and it would not be accomplished in fiscal year 1981 and it has been short of funds. That channel carried 10 million tons of commerce. During fiscal year 1979 it carried 1,600 passages, and the commerce is increasing at the rate of 10 percent through a year and it is estimated to double in the next decade.

So, in view of the particular situation that developed in these emergencies in the past year, we would strongly recommend that sufficient funds be made available so that project can be dredged and restored to its normal condition.

MISSISSIPPI RIVER, BATON ROUGE TO GULF—55-FOOT CHANNEL

The next project that we would like to recommend is the 55-foot channel for the lower Mississippi River. I recognize that this project, as far as your funding, is fully funded to complete the presently authorized studies. But in the event the fast track legislation for the deepening of major ports in this country is approved—and Senator Johnston is very much in the forefront with legislation on this proposal—if that legislation is passed, the Chief Engineer of the Corps has stated when he testified before the House in answer to a question from Mrs. Boggs, that $4½ million would be needed to continue the planning for the fast track legislation.

I am recommending, if that situation arises, that you give consideration to approving such appropriation at a later date.

I might mention that the tonnage that moves through the lower Mississippi River—last year we moved over 5 million tons of grain at export valued at $9 billion. Exported coal have plans projected that there will be a capability to export coal by 1983–85 timeframe of 60 million tons a year from the lower Mississippi and double that by 1990. You can see what this would mean to our balance of payments.

In the national interest, I think it is vital to move forward expeditiously on this particular project.

Senator Johnston, is a much more eloquent spokesman than I am on this, and he knows all the circumstances, I am sure with your help and the other members' help that it will move on.

The next project that we would like to recommend is funding for the environmental impact statements to the EPA by the Corps on ocean-dumping sites involving some 30 some sites around the Nation at a rate of $5 million for fiscal year 1982. Without this funding level, I think agencies and entities such as the National Wildlife Federation and others might be inclined to enter into litigation against the Nation's ports against the Corps who is now being made to accomplish these in a timely fashion.

So, we recommend for that reason that this funding be provided.

We also recommend that the anchorage area in the vicinity of Pilottown be approved and moved forward and funded. And I am not going to get into details, I will let Captain Meyers address that as part of his statement.

This concludes my remarks. I have given you a very rapid summary. I would like to ask the representatives with me now to present their remarks and I would like first to call on the New Orleans Steamship Association, Mr. Sam Giallanza.

MISSISSIPPI RIVER, BATON ROUGE TO GULF—55-FOOT CHANNEL

STATEMENT OF SAM GIALLANZA, SENIOR VICE PRESIDENT, NEW ORLEANS STEAMSHIP ASSOCIATION

Mr. GIALLANZA. I am Sam Giallanza and I am senior vice president of the New Orleans Steamship Association. Our membership, some 70 steamship owners, operators, agents, and stevedores, represents hundreds of shipowners in international commerce. Our members serve the public and private facilities on the Mississippi River from the Gulf of Mexico to Baton Rouge, and on the Mississippi River-gulf outlet.

The need to deepen the channel serving the deep-water area of Louisiana is underscored by the potential growth of two export cargoes—grain and coal. In 1960, the first private grain elevator was built in New Orleans. Additional elevators have been built and in 1980 grain exports had grown to 55 million tons per year on the lower Mississippi. This tremendous and continuing growth lends credence to the predictions of further growth in grain exports. Studies by the New Orleans Port Authority predict that grain exports will reach 150 million tons per year by the year 1990.

Our experience with grain exports also tends to substantiate the predictions for potential coal exports. Studies by the board of commissioners predict lower Mississippi River coal exports will reach 200 million tons by the year 2000.

However, these potential levels may only be reached with a 55-foot channel. It is estimated that $4 per ton or more can be saved exporting grain if the channel can accommodate vessels loaded to 55 feet—$400,000 or more can be saved on just one ship loading 100,000 tons of grain. Brazil, Argentina, Australia, and Canada are becoming more aggressively competitive in the world grain market. It would not be surprising in the future to find America's competitive edge in world grain trade determined solely by the lower transportation costs noted above.

Combined with the projected growth in grain exports is the potential for explosive growth in coal exports. Here, too, is a potential savings in transportation costs to our customers—$6 per ton or more if the channel would allow vessels to load to 55 feet. In addition, a 55-foot channel will give added impetus to the construction of needed coal-loading facilities. It will provide an inland water transportation route from the eastern and midwestern coalfields. It has been proven that inland water transportation is the most economical way to transport cargo. With a 55-foot channel for America's natural water highway, the Mississippi

River would provide a complete water route from U.S. coalfields to sea with a port of exit which has a channel depth comparable to the European ports that are ready to receive U.S. coal.

The increase in grain and coal exports will have several positive effects on the U.S. economy. Grain, traditionally, has had a positive effect on our balance of payments. The same can be expected of coal exports. But the greatest positive effect that deepening the channel will have is the creation of new jobs. Based on data from a University of New Orleans study, the increased grain and coal exports through the lower Mississippi River could result in an additional 35,000 jobs, or more, being created in the area. Based on the impact on the lower Mississippi River, the jobs created nationally will be very significant. Because of its tremendous positive impact, the Corps' 8.5-to-1 cost-benefit ratio of this project may be conservative.

In closing, let me clarify one point which seems to generate quite a bit of confusion. For most of the 250 miles from the Gulf of Mexico to the Port of Baton Rouge, the Mississippi River has an average depth of about 100 feet. The dredging and maintenance which we are supporting would be in the 22-mile stretch from Head of Passes to the Gulf of Mexico and nine short areas in the main stream of the Mississippi River from Head of Passes to Baton Rouge.

Thank you for allowing me to appear before you today. On behalf of our industry, I urge you to support the request for funds to accommodate the projects included in my statement. I especially urge you to invest in the 55-foot channel for the lower Mississippi River. That investment will produce dividends in the form of jobs far into the future.

HOPPER DREDGE CONSTRUCTION

For several years now, I have been appearing before you requesting support for the construction of a new hopper dredge for the gulf ports. I am pleased to report that the construction of this dredge is near completion. In fact, it is scheduled to be completed in this fiscal year. On behalf of the shipping interests, I wish to thank you for providing the funds for this much needed dredge.

Senator COCHRAN. Thank you very much for your generous comments and your statement.

[The statement follows:]

STATEMENT OF S. GIALLANZA, SENIOR VICE PRESIDENT, NEW ORLEANS STEAMSHIP ASSOCIATION

My name is S. Giallanza. I am Senior Vice President of the New Orleans Steamship Association, whose membership comprises seventy steamship owners, operators, agents and stevedores in the Port of New Orleans, associated with hundreds of ship owners in international commerce.

I am here today to testify in behalf of four projects vital to the future development of foreign commerce in the Port of New Orleans, as well as the innumerable facilities on the Lower Mississippi River from the Gulf to Baton Rouge. These projects, listed below, have impact on the national level in terms of the United States' ability to remain competitive in world trade and should be funded as noted below.

1. Repairs to jetties, dikes and maintenance dredging of Southwest Pass and maintenance dredging of the Mississippi River from Baton Rouge to the Gulf and construction of new anchorage area.
2. Maintenance Dredging of the Mississippi River-Gulf Outlet.
3. Continuation of the Design Program of the Mississippi River-Gulf Outlet New Ship Lock.
4. Development of final plans for the Fifty-Five Foot Channel for Lower Mississippi River.

The importance of maintaining project channel dimensions to the economy of this area is only surpassed by the need for increased channel depths to accommodate the growth in ships' sizes needed to accommodate foreign trade. The economy of larger vessels has been proven by all maritime nations of the world. The growth in vessel sizes includes all classes -- tankers, bulk carriers, OBOs, Ro-Ros, barge carriers and container vessels.

The Mississippi River deepwater ports, so essential to our nation's economy and defense, continue to experience rapid growth. In 1978 (latest figures available), the Corps of Engineers' statistics reflected that 572,181,000 tons of waterborne commerce, a 20 % increase over 1976 , was moved through the Lower Mississippi from Baton Rouge to the Gulf.

New Orleans, located at the mouth of the Mississippi River, is a natural port for the most modern concept in ocean commerce -- the barge-carrying vessel. In past years, several of our member companies, operators of LASH and SEABEE vessels, have been forced to divert some of their scheduled New Orleans calls to other Gulf ports to offload before calling at New Orleans and then call again at another port to topoff before sailing foreign. The diversion to other ports, necessitated by shoaling in Southwest Pass, involved added costs running into millions of dollars as well as the loss of employment opportunities in our area.

Until 1960, our port area was served by one grain elevator; this year 12 elevators will supply grain to vessels - The Continental Grain Elevator is being rebuilt following an explosion in December of 1977 and is expected to be back to full operation this year. The Lower Mississippi River is the leading grain exporting area of the world. Of the more than 1,780 vessels that annually load millions of tons of grain at these elevators, nearly all are of the larger bulk-carrier and tanker class; and many, because of shoaling and/or insufficient project draft at Southwest Pass, are forced to sail with slack holds.

If we are to continue as the No. 1 grain exporting area, the No. 2 port of the United States, and a leading world port, we must be able to efficiently serve the larger, more efficient vessels. To do so, the entrance to our port, Southwest Pass, must not only be maintained at all times at its authorized project depth, it must be deepened.

In addition to the approximately 55 million tons of grain moved in 1980, millions of tons of petroleum and petroleum products, again carried by large vessels, were moved to and from refineries located on the river between Baton Rouge and the Gulf of Mexico.

The number of vessels that exceed 100,000 deadweight tons calling on the Lower Mississippi River is constantly increasing. There were 681 vessels during 1980 in excess of 100,000 deadweight tons which transited Southwest Pass. This is 27½% more than the number of vessels of this class that called during 1978.

We make a special appeal for appropriation of funds for FY 82 to maintain New Orleans as a deepdraft port and to avoid in future years the serious silting problems that existed in Southwest Pass in the past. The following data reflects the shoaling in the Pass which has restricted the movement of world commerce through the Lower Mississippi River.

History of Days during which Southwest Pass was Less than Project Depth

Year	Less than 40 feet at Southwest Pass
1970	205 Days - 56.2%
1971	139 Days - 38.1%
1972	0 Days - 0%
1973	278 Days - 76.2%
1974	227 Days - 62.2%
1975	157 Days - 43.0%
1976	0 Days - 0%
1977	0 Days - 0%
1978	0 Days - 0%
1979	94 Days - 25.7%
1980	60 Days - 16.4%

It should be noted that beginning in 1979, after three full years of project depth, we were again faced with draft restrictions at the entrance to the Mississippi River.

As an example, during a period of restriction we made a study of 50 of the many vessels that were unable to load their full cargoes as a result of siltation in the Pass. These vessels, only a few of the 7,500 that call at this Port area annually, left behind 350,000 tons of foreign commerce valued at more than $50,000,000. This tonnage, forced to be withheld from export, deprived this area of millions of dollars in economic benefits. On the current market the value of this cargo would be greatly increased. Recently, during a period of shoaling, a bulk carrier of 122,266 deadweight tons was limited to a loading draft of 36 feet rather than the project depth of 40 feet. This vessel was forced to leave behind 11,328 tons of cargo that had a market value in excess of $1.2 million.

We cannot emphasize too strongly that draft restriction will have a detrimental effect on the future of the Mississippi River Port facilities and the important Mississippi Valley they serve. The inability to constantly maintain project depth deters charterers and owners from entering into contracts for loading full cargoes of bulk commodities at local port facilities due to the uncertainty of the controlling draft. The uncertainty of channel depths will cause the entire area from the Gulf to Baton Rouge to become a penalty port area.

As can be seen, one of the most important and difficult jobs in our area is maintaining the 40 foot project dimension at Southwest Pass. The President's budget for Operations & Maintenance, General, Mississippi River, Baton Rouge to the Gulf is $26,073,000. The Corps' capability in this area is $41,873,000. The additional $15.5 million, if approved, would provide for training dikes at Southwest Pass. These dikes would use the flow of the river itself to help maintain the project depth of the channel. Such dikes would tend to lower dredging costs in the future. We appreciate the need to reduce federal expenditures; however, current investments in this project would result in Federal cost savings in the future.

We urge the approval of the President's budget of $4.4 million for Construction, General, Mississippi River, Baton Rouge to the Gulf.

For many years now, I have appeared before you requesting funds for the construction of a Large Class Hopper Dredge for our District. I am happy to report that no additional funds for this project are needed. The project is on schedule and is expected to be completed this year. Please accept the thanks of the entire deepdraft industry on the Lower Mississippi River for your support and, more importantly, the money to see this project to completion.

The growth of the Port of New Orleans extends to the Bulk Handling Plant and the Port's container and ro-ro facilities, among others, located on the Mississippi River-Gulf Outlet. This seaway has a project depth of 36 feet. Shoaling has resulted in the loss of project draft. We request that the Congress appropriate $4.5 million over the President's budget of $7,089,000 for Operations & Maintenance, General, Mississippi River-Gulf Outlet. This will still result in funding at $4.5 million less than the Corps' capabilities.

The Public Bulk Terminal and the container terminal are located on the Mississippi River-Gulf Outlet while the grain facilities, many LASH/SEABEE terminals, and the public wharves are located on the Mississippi River. An adequate route between the Mississippi River-Gulf Outlet and the river is essential. The shortest and most efficient route is an antiquated 50 year old lock with a width of 75 feet and limited to a depth of 30 feet. Its maximum capacity has long been exceeded. The waiting time for passage through the lock at present averages from 8 to 10 hours, however, waiting time on occasion has been in excess of 24 hours.

An adequate ship lock, 150 feet by 1200 feet by 50 feet, has been authorized; and we urge that Congress provide $1,050,000 to support the Corps of Engineers' capability for continuing the design of this project. This amount was included in the President's budget for FY 82.

The need to deepen the channel serving the deep water area of Louisiana is underscored by the potential growth of two export cargoes - grain and coal. In 1960, the first export grain elevator was built in New Orleans. By 1980, after several additional elevators had been built, grain exports had grown to 55 million tons per year on the Lower Mississippi. This tremendous and continuing growth lends credence to the predictions of further growth in grain exports. Studies by the Board of Commissioners of the Port of New Orleans predict that grain exports will reach 150 million tons per year by the Year 1990.

Our experience with grain exports also tends to substantiate the predictions for potential coal exports. Studies by the Board of Commissioners predict Lower Mississippi River coal exports will reach 200 million tons by the Year 2000.

However, these potential levels may only be reached with a 55 foot channel. It is estimated that $4 per ton or more can be saved exporting grain if the channel can accommodate vessels loaded to 55 feet - $400,000 or more can be saved on just one ship loading 100,000 tons of grain. Brazil, Argentina, Australia, and Canada are becoming more aggressively competitive in the world grain market. It would not be surprising in the future to find America's competitive edge in world grain trade determined solely by the lower transportation costs noted above.

Combined with the projected growth in grain exports is the potential for explosive growth in coal exports. Here, too, is a potential savings in transportation costs to our customers - $6 per ton or more if the channel would allow vessels to load to 55 feet. In addition, a 55-foot channel will give added impetus to the construction of needed coal loading facilities. It will provide an inland water transportation route from the Eastern & Mid-Western coal fields. It has been proven that inland water transportation is the most economical way to transport cargo. A 55 foot channel will also provide a U. S. port with a controlling draft comparable with the European ports which will receive the coal.

The increase in grain and coal exports will have several positive effects on the U. S. economy. Grain, traditionally, has had a positive effect on our balance of payments. The same can be expected of coal exports. But the greatest effect that deepening the channel will have is the creation of new jobs. Based on data from a University of New Orleans study, the increased grain and coal exports through the Lower Mississippi River could result in an additional 35,000 jobs, or more, being created in the area. Based on the impact on the Lower Mississippi River, the jobs created nationally will be very significant. Because of its tremendous positive impact, the Corps' 8.5 to 1 cost-benefit ratio of this $400 million project may be conservative.

In order that the strength and growth of the Mississippi Valley will continue, we urge your support for the needed funds to serve the foreign commerce in this area, which in turn serves the needs of our country.

I appreciate the opportunity to appear before the Committee.

Summary of testimony of S. Giallanza, Senior Vice President of the New Orleans Steamship Association, before the Senate Energy and Water Development Subcommittee on Appropriations, at 10:00 a.m., Wednesday, March 25, 1981, in reference to the projects of public interest in the Port areas of New Orleans and Baton Rouge.

1. Repairs to Jetties, Dikes and Maintenance Dredging of Southwest Pass and Maintenance Dredging of the Mississippi River from Baton Rouge to the Gulf and Construction of New Anchorage Area.

   The Lower Mississippi River from the Gulf to Baton Rouge, ranks as the No. 1 grain exporting port in the world, the No. 2 port of the United States, and a leading world port. If the cargo-carrying capacities of vessels are again restricted by reduced entrance channel depths, this area will rapidly lose its status as a leading port, and this will have a detrimental effect on the National economy. The President's budget appropriation of $26,073,000 could result in an increase in the cost to the Corps of maintaining the project channel in the future. We urge that the Corps of Engineers' full FY 82 capability of $41,873,000 for Operation and Maintenance, General, Mississippi River, Baton Rouge to the Gulf, be appropriated. The additional $15.5 million would be used for training dikes at Southwest Pass, an investment which will save significant dredging costs in future years. The President's budget fully funds the Corps' Construction, General, Mississippi River, Baton Rouge to the Gulf capabilities. We urge approval of this $4,400,000.

2. The Mississippi River-Gulf Outlet Maintenance Dredging.

   The number of vessels using the Mississippi River-Gulf Outlet has continued to increase. Located on this waterway are the Port's Bulk Handling Plant, the new container facilities, the ro-ro terminal and additional facilities under construction which provide newer cargo handling methods to accommodate the larger ships now serving international trade. It is recommended that $11.6 million be appropriated for Operation and Maintenance, General Funds, Mississippi River-Gulf Outlet. While this is $4.5 million higher than the President's budget, it is $4.5 million less than the Corps' full capability. The additional money will be used to restore this channel to project dimensions.

3. The Mississippi River-Gulf Outlet New Ship Lock.

   The design for the urgently needed new ship lock is now underway. This lock once in operation will relieve existing hazardous congestion and costly delays to navigation as well as to enable the economic growth and development of water-oriented industries along the Mississippi River and the Mississippi River-Gulf Outlet and to maintain viability and promote the future growth of the Port area of New Orleans. It is urged that the Congress provide the $1,050,000 as requested in the President's budget for FY 82, to satisfy the Corps of Engineers' capability for continuing this project.

4. Fifty-Five Foot Channel for Lower Mississippi River.

   It is recommended that the Corps of Engineers be directed to develop with all deliberate speed their final plans for this project on the basis of full Federal funding as has been the case on previous deepenings of this segment of the waterway which serves all mid-America.

STATEMENT OF D. R. MEYERS, JR., PRESIDENT, ASSOCIATED BRANCH PILOTS

Mr. HAAR. I would like to call on Captain Meyers, Mr. Chairman.

Captain MEYERS. Mr. Chairman, in 1980 my organization made 3,643 transits through Southwest Pass with vessels whose deadweight tonnage exceeded 50,000 tons. In 1973 we only had 262 transits over 50,000 deadweight tonnage. The volume of transits has increased from 12,438 turns in 1973 to 16,237 turns in 1980. Almost all the ships in excess of 50,000 deadweight tons could load to a draft greater than 46 feet.

With the export of coal now and increasing in the future, we need a deeper channel because the ships calling to the ports on the Mississippi River are going to get larger and increase in volume.

The New Orleans district is nearing the completion of a study of the feasibility of larger deep-draft approaches to the Ports of New Orleans and Baton Rouge, La. The plan tentatively recommends the enlargement of the 40-foot channels in the Mississippi River and Southwest Pass to a project depth of 55 feet up to Baton Rouge. I understand the estimated annual benefits and average annual costs is $787 million, and the ratio of average annual benefits to costs is 8.5 to 1. The final report and EIS are scheduled to be submitted to the Corps higher authority in May 1981 and could reach Congress in late 1981 or early 1982, and we urge a favorable consideration.

PILOTTOWN ANCHORAGE

For many years now the Pilottown anchorage has been inadequate. Three years ago the Congress authorized the enlargement and deepening of the anchorage. However, because it is necessary for the U.S. Army Corps of Engineers to coordinate its work with various other Federal and State agencies, construction of the project has not yet started.

During the frequent periods of intense fog in the lower river and in Southwest Pass, a proper anchorage is essential to safe navigation of the Mississippi River project. While the benefits resulting from construction and subsequent maintenance of this anchorage are somewhat intangible and hard to get a handle on, they are tremendous, and a ratio of benefits to cost would necessarily be extremely high. Consequently, we urge that you provide the Corps with the funds required to continue work on this project.

I have been up here in the past 5 or 6 years. I want to thank the committee for all you have done for us to make it safe for us to pilot the shipping in Southwest Pass which is the gateway to the Mississippi River, the Mississippi Valley. I want to thank you again for whatever you can do for us. We appreciate your support.

Senator COCHRAN. Thank you.

[The statement follows:]

STATEMENT OF CAPT. D. R. MEYERS, JR., PRESIDENT, ASSOCIATED BRANCH PILOTS

Southwest Pass, which is the gateway to the Mississippi River, the Mississippi Valley, and over 50 percent of the movement of our country's waterborne commerce. My association pilots this 22-mile-long section from the head of passes to the Gulf of Mexico and in the President's budget of $26,073,000 will not fund the much-needed repairs to the training works in Southwest Pass. Dredging cost for Southwest Pass have increased by leaps and bounds in recent years. This is partially due to inflation, and partially because of lack of sufficient funding has made it necessary to repeatedly defer normal maintenance of the training works in Southwest Pass. This deferred works amounts to $15 million and could be accomplished in fiscal year 1982 if funds were made available.

In 1980 my organization made 3,643 transits through Southwest Pass with vessels whose deadweight tonnage exceeded 50,000 tons. In 1973 we only had 262 transits over 50,000 deadweight tonnage. The volume of transits has increased from 12,438 turns in 1973 to 16,237 turns in 1980. Almost all the ships in excess of 50,000 deadweight tons could load to a draft greater than 46 feet.

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For many years now the Pilottown anchorage has been inadequate. Three years ago the Congress authorized the enlargement and deepening of the anchorage. However, because it is necessary for the U.S. Army Corps of Engineers to coordinate its work with various other Federal and State agencies, construction of the project has not yet started. During the frequent periods of intense fog in the lower river and in Southwest Pass, a proper anchorage is essential to safe nevigation of the Mississippi River project. While the benefits resulting from construction and subsequent maintenance of this anchorage are somewhat intangible and hard to get a handle on, they are tremendous and a ratio of benefits to cost would necessarily be extremely high. Consequently, we urge that you provide the Corps with the funds required to continue work on this project.

PREPARED STATEMENT

Mr. HAAR. Mr. Chairman, Capt. Richard Ducros, who is president of the Crescent River Port Pilots Association was unable to be with us today, but he did send a statement that I have furnished to the committee staff and I would like to ask permission to include it as part of the record.

Senator COCHRAN. Without objection, it will be included in the record at this point.

[The statement follows:]

Statement of Capt. Richard E. Ducros, President, Crescent River Port Pilots Association

As president of the Crescent River Port Pilot's Association, I am pleased to avail myself of this opportunity to express to each of you the concern of this Association and all the individual River Pilots for the expeditious implementation of the proposed fifty-five foot Mississippi River channel.

The River Pilots are aware that various interests are urging your attention to their perceptions of the need for and potential economic and other impact of such proposed deepened channel. In point of fact, we have been solicited and urged to endorse or subscribe to varying points of view on the matter.

Certainly, the River Pilots are aware that the economic impact of the development on the entire Mississippi River valley of the Mississippi River system as a coal transportation medium must be considerable not only to Middle America, but to the entire nation. That some of that economic benefit may inure to the State of Louisiana and its ports along the Mississippi River cannot be gainsaid. That those benefits are nationwide and perhaps not subject of reasonable regional or local apportionment appear obvious beyond argument.

Further, the River Pilots are aware that the implementation and continued upkeep of such a channel will require funds far beyond the capabilities of other than the national government. Pretermitting the enormous initial outlay, the cost of maintaining the channel in the future against the silting propensity of the Mississippi River must require outlays for equipment and manpower, thus far unavailable. Even the maintenance of the current woefully inadequate channel is neglected and shunted aside with equipment and manpower diverted, to other projects which, though appealing, cannot be so impressed with the national interest as is the navigability of the Mississippi River system.

Undoubtedly, arguments can be made for the retention of the scenic beauty of the Mississippi River unspoiled by commerce and river traffic. No river pilot would question the River's poetic beauty and its delightful vistas. The pilots, however, do recognize that their River is, and has been during the entire life of the Republic, the commercial highway of all Middle America. As such, there is no going back to sleepier times. The River is a highway and not a sleepy lagoon. It must have the development of infrastructure of the busiest most important water highway in all America, if not in all the world.

We, as Crescent River Port Pilots, are charged by the State of Louisiana with the responsibility of safely navigating the River's traffic in its most congested and dangerous reach -- from New Orleans to the River's mouth. We must take all vessels, no matter their number, under all conditions of weather and circumstance. The limitations of the present channel are aggravated by silting and shoaling resulting in strandings at numerous points along the route. Such strandings compound already difficult and dangerous traffic problems brought on, in part, by the inadequate channel.

Unreasonable and unrealistic limitations on the traffic to and from the Port of New Orleans are imposed today due to the River's navigational depth. Those limitations deny access to this port to a great amount of world ship commerce serving as an effective barrier to all the Mississippi valley. The pilots have repeatedly pleaded and petitioned for the services of dredges at least to maintain the present insufficient depth. The response has been truly unfortunate thus far.

It seems inevitable that the demand for coal as an energy source will result in an influx of coal related water commerce on the lower Mississippi which will strike this inadequate, dangerous channel like a flood. That traffic to meet the demand will be geometrically more than the River can possibly cope with. From that inadequacy will come danger of collisions with loss of life and cargo, delays while the entire River is shut down due to strandings in the shallow channel and the need to seek emergency half measure palliatives which could be relieved or removed by providing now for a realistic fifty-five foot River channel.

The primary concern of the Crescent River Port Pilots is the affording of safe efficient navigation on the reach of River entrusted to our responsibility. That responsibility and its discharge can be facilitated by action of the appropriate authorities in making a deepened channel available.

The River Pilots will, as they have since 1908, spare no effort in their work to meet their responsibilities to the people of the State of Louisiana and to the maritime industry they serve. The facility to perform that task will be made much safer and more efficient by the provision of a reasonably adequate channel.

Your kind assistance in bringing your influence to bear in obtaining this urgently needed facility is respectfully requested.

CONCLUDING REMARKS

Mr. HAAR. I want to take this opportunity to thank you, the other members of the committee, and the staff for the cooperation that we have received and the good support over the years. We, too, at the Port of New Orleans are most happy that the new hopper dredge is coming on line and Senator Hatfield, and members of the committee, Senator Johnston, have been most helpful over the years providing funding for us. This is going to help us a great deal, not only in the Mississippi River but other ports along the gulf. Thank you.

Senator COCHRAN. Thank you, Mr. Haar. We appreciate you being here and providing us with this information and guidance, and having the benefit of your suggestions which I think will improve the end product.

Senator Johnston.

Senator JOHNSTON. Thank you, Mr. Chairman.

I want to thank you all for an excellent presentation. I believe every single word you said. I think what we need to do is ensconce them in a hotel room in the Hilton and let them look at the Mississippi River—look at the amount of commerce moving up and down it. It is just incredible what goes on in that river.

TREND TO LARGER SHIPS

Captain Meyers, I am very interested in your statement here about the number of crossings you have with the ships that are over 50,000 deadweight tons.

Captain MEYERS. I couldn't say on the percentage of those, because under 50,000 will go 40 feet. Those are what I use as a basis will draw over 46 feet. And that increased over 50,000 since 1973. I guess it would be about 18 percent.

Senator JOHNSTON. And increasing geometrically all the time?

Captain MEYERS. We increased large ships, we decrease in volume. Since 1973, we increased 30 percent in volume and 30 percent in tonnage. With the large ships coming, we have not lost any vessel.

GROWTH IN GRAIN EXPORTS

Senator JOHNSTON. With the tremendous growth from this port all along the port, we got the grain that is supposed to double by the year 2000.

Mr. HAAR. Grain will double by 1985. It is projected to go to 150 tons by 1990. And in making these projections, which are higher than the Department of Agriculture would make, we took the growth rate for the last 10 years, going through the lower Mississippi River and made a straight line projection. When you look at the world population, which is projected by the U.N. to go from 4½ billion to 60 billion in 1996, I think it is obvious the grain is continuing to grow at, say, traditional rates, even more. But it will double between 1980 and 1985 on those straight-line projections and triple in 1990.

Senator JOHNSTON. With the doubling and tripling of grain movement, the anticipation of coal exports using the 55-foot channel that may be as high as 150 million tons by the year 2000, 60 million tons by 1983, is that river going to be getting too crowded? Are you going to have any problems?

Captain MEYERS. I don't believe so, Senator. We can regulate that on the basis of loading ships. We do that today, and the people are willing to wait 2 or 3 hours to get their ships in to load, instead of waiting 30 or 40 days as they do now. We have a good track record to monitor the control. We can regulate that.

Senator JOHNSTON. What are the limiting factors on that river? There has to be some limitation. Can it continue to grow and grow?

Captain MEYERS. If you have a 3-day fog, you might have 135 ships that are backed up, it takes us a while to move them. You can put them in the pass and we move this pretty rapidly. It would be the same thing in increase in business. We can regulate the traffic.

Mr. HAAR. Senator Johnston, in anticipation of this question arising, Captain Mueller, who is the manager of Barrows Steamship Lines in New Orleans and has experience with European major ports, sent me a letter addressing this very problem comparing it to Hamburg, saying the VTS system goes on line and improved radar that this will be a great assistance as traffic increases, particularly with coal freight.

I will be happy to furnish a copy of this letter for the record, which I think will shed more light.

Senator JOHNSTON. I would like to have that for the committee files.

Mr. HAAR. Mr. Reeves, our port director, who serves on the advisory committee, indicates that report is due out in the next couple of months.

Mr. REEVES. In answer to your question, the experience of European ports, while they don't have the tremendous volume of cargo that we have, they have a lot of barges coming in and out. With proper control in America we are just getting to where we can handle a much larger volume of number of barges than we have now. We don't anticipate major problems.

Senator JOHNSTON. It is incredible to me the way these river pilots can navigate that river. If you have ever seen it—they do it at night. I guess the fog slows you down a little bit. But how they memorize that river and know where that channel is and almost never run aground is amazing. They know that river like the back of their hands and maybe better.

Senator COCHRAN. Thank you all again for being here and helping us. Mr. Giallanza.

Mr. GIALLANZA. As you know, since about 1967 with the coming of the barge and with the change on the local elevator, which at one time had 80 percent rail delivery of grain, and with the coming of the non-upper elevator, in that stretch of the river from New Orleans to Baton Rouge, which is about 140 miles, we have control in avoiding congestion. We have kept them out of the mainstream of navigation with the help of VTS. Maybe for some short period of time we have one-way traffic in just a few limited number of miles. We got plenty of river and we can handle a lot of barges.

I want to make one point. You take a vessel in excess of 100,000 deadweight to 150,000 deadweight tons, we look at that loading anywhere from 230 to 300 tons per inch. Every time we sink that ship 1 inch, we put 250 to 300 tons of cargo. Let's take a vessel that can load 300 tons per inch, the 15 additional feet of channel depth we are talking about is close to 200,000 tons of additional cargo that can be put in one vessel. At today's value, you are looking at $100 million per ship.

Senator JOHNSTON. $100 million additional. Those are big figures. Thank you.

Mr. GIALLANZA. One other thing. Big ships could reduce the traffic in the Mississippi River. One ship can carry so much more. Thank you.

HIGH TEMPERATURE GAS-COOLED REACTOR

STATEMENT OF HAROLD AGNEW, PRESIDENT, GENERAL ATOMIC CO.

Senator COCHRAN. Thank you again. Our next witnesses are here to discuss the high temperature gas reactor program. We are happy to welcome to the subcommittee Mr. Harold Agnew, president of the General Atomic Co., and Mr. Richard Walker, chairman of the Gas-Cooled Reactor Associates, and others who may be with you.

We have copies of your statements which you prepared for us. We would like you to summarize those written statements. We will make those a part of the record in full following your oral remarks. Please introduce any others who will be participating in the presentation.

Mr. AGNEW. Thank you, Mr. Chairman, I am Harold Agnew. As you mentioned, Mr. Walker is with me, and Ms. Roche will assist with the charts.

I was struck by Senator Stennis' earlier remarks in regard to his perception of the need for energy independence. I appreciate that this committee realizes that the greatest potential source of energy in this country is grain. It is 100 times greater than the energy potential in our coal. Nuclear energy plays a vital part in our energy mix; it should play a much greater role. I am distressed that in the past 30 years there have been little improvement in the basic nuclear systems which are available today to the industry.

The HTGR has unique characteristic in the nuclear field with which I have worked in the past which has been more on the defense side. We emphasize safety and adaptability.

INHERENT SAFETY CHARACTERISTICS

The first chart shows that it is much safer than present systems. It has an inherent safety and has much higher thermal efficiency and down the road it offers the potential for using nuclear energy directly as opposed to not going through electrical generation.

The program that we have been pursuing—and I think we have a set of these viewgraphs—shows that the original first demonstration is Peach Bottom No. 1 prototype reactors followed by the Fort St. Vrain reactor. The Nuclear Regulatory Commission released that reactor to go 100-percent power to a program which they are now implementing.

What we are talking about is the lead plant for the commercialization utilizing this technology. And from that, one has the possibility of running the process heat very high temperatures and also a direct site for gas turbine systems.

PRIVATE SECTOR AND INTERNATIONAL PARTICIPATION

Program data is unique in the nuclear system, that it is only the nuclear system where the private industry has contributed to the majority of the funding. Today, the private industry has contributed almost three-quarters the total funds expended and the future programs which we are asking for funding, it is contemplated the private industry will support essentially three-quarters of the funding required for that particular program.

The program is not just limited to this country, but there is very large international programs. Last year the moneys expended in Europe and Japan is essentially five times that of this fiscal year this country is spending.

You can see over the years the Federal Republic of Germany has put in $4 billion and we notice that the funding in Europe and Japan was $300 to $400 million where now it is around $400 million.

We do have a schedule that we worked out and over the next 12 years we will have on line such a plant. It is General Atomic's reponsibility to provide the industry intrastructure so that a reactor industry will be available to put this technology into being.

There has been some talk of worries about bringing into being a new fuel cycle. This isn't really a converter reactor working on the Fort St. Vrain system. One does not have to compute the fuel cycle. Or, if one wishes, one can revert to the——

Senator JOHNSTON. May I interrupt. The Fort St. Vrain is 90-something percent. Can you go with 3 percent?

Mr. AGNEW. We can go 20 percent or anything above that up to 93 percent. If one looks at the economics, it is much more credible to stay with the high enriched material. It is more favorable to do that.

And in particular, I would be remiss if I did not mention, and this is something that as a result of the Armed Services Committee's work in past years they are facing up to the fact that our defense production reactors which produce tritium for the weapons stockpile and will be required to produce tritium for the fusion program, our fusion program and the world's fusion program would not be able to produce unless adequate funds for tritium is available.

This system is the leading contender to produce tritium for weapons and fusion requirements. This program, which we are going to our civilian sector for and 80 percent of the work funding, will be more than applicable for that particular program. It is the identical machine, but the only differences are correlated if you take into copy of the material, there has to be a different turbine plant.

Senator JOHNSTON. In order to produce tritium you have to have a different turbine plant?

Mr. AGNEW. What they want is the ability to run the reactor whether the ability of the generating part of the plant is working or not. In order to do that, you need a separate one. And that is what this is. This reactor system is unique when you mention turbine, in that power-generating equipment is identical with that equipment which is used in the fossil plant because the steam temperature when one gets in the fossil plant, so you don't have this very large expensive turbine equipment which presently has to be used in the present water temperatures.

REACTOR SAFETY RESEARCH

That completes my summary. I would like to mention, we strongly support that the Nuclear Regulatory Commission activities which support this program should be funded to the level of about $3.5 million for reactor safety research and $0.5 million for preapplication license and the total amount as mentioned in my prepared statement was $55 million or $50 million—$5 million for the NRC and $5 million for fuel processing, a total of $60 million we recommend for the 1982 funding.

Thank you.

Senator COCHRAN. Thank you, Mr. Agnew.

[The statement follows:]

STATEMENT OF HAROLD M. AGNEW, PRESIDENT, GENERAL ATOMIC CO.

I. INTRODUCTION

The High Temperature Gas Cooled Reactor (HTGR) is an advanced, high efficiency, converter reactor system which, in addition to electrical generation, offers a unique capability to meet industrial requirements for high temperature process steam and process heat. The basic technology has been demonstrated by the Peach Bottom I (40 MWe) and the Fort St. Vrain (330 MWe) HTGR nuclear stations, wherein the high temperature and high pressure steam generated is used to produce electricity. The next stage of HTGR development is the demonstration of full scale commercial technology.

The current Department of Energy/Industry program is focused on the unique high temperature capabilities of the HTGR to provide process steam and process heat for industrial applications. The near term application of the HTGR is to generate high temperature (1000°F) steam for process heat use in chemical, oil, shale oil and metals refining industries. In these applications, nuclear process heat substitutes directly for fossil energy. Many process steam applications also involve the simultaneous cogeneration of electricity to most efficiently use the energy produced by the system. This version of the reactor is the HTGR Cogeneration system.

In addition to the cogeneration applications, another near term use of the HTGR is as a replacement production reactor to produce special nuclear defense materials. The HTGR is one of the candidate systems being studied by the Department of Energy (DOE) to meet this need.

Longer term applications involve HTGR reactors with higher operating temperatures. These reactors can serve higher temperature process heat markets such as methane reforming, direct coal gasification, and eventually direct water splitting for hydrogen production. At the higher operating temperatures, the HTGR may also be used to generate electricity using closed cycle helium gas turbines with overall efficiencies of up to 50%. The latter systems using dry cooling towers are particularly suited to location in water-scarce areas.

II. JUSTIFICATION

High Temperature Gas-Cooled Reactors offer higher thermal efficiencies than the existing LWR technology as well as improved fuel utilization by employing the uranium/thorium fuel cycle. The HTGR has inherent safety characteristics; i.e., inert helium gas as a coolant, prestressed concrete reactor vessel and massive high-heat capacity graphite core, which significantly reduces both the likelihood of accidents and the consequences to the public and the plant. The HTGR is the only reactor capable of producing the high temperature steam to meet the industrial requirements of the oil, chemical, synfuels and aluminum process industries and displacing the substantial quantities of fossil fuels otherwise required. Estimates of existing process steam markets (e.g., in oil and chemical industries) indicate that more than 70 reactors could be deployed to meet existing needs, saving the equivalent of 1-1/2 million barrels of oil per day. Future use in support of the synfuels industries would add substantially to the total potential market.

The in-depth studies of the HTGR as a replacement production reactor (RPR) indicate that the existing design, developed under the DOE/Industry program, is ideally suited to meet the RPR requirement for the efficient, low cost coproduction of special nuclear materials and electric power generation. This offers the opportunity for a cost effective HTGR program which would satisfy the defense requirements and simultaneously fulfill the objective of demonstrating the technology for civilian nuclear power program.

A major segment (over 25%) of the electric utility industry operating through Gas-Cooled Reactor Associates (GCRA) and major oil, gas, process steam users and chemical firms support the development of gas reactors. Through FY'80 private industry has invested about $1 billion and the government has provided approximately $400M to develop this technology. It is the only nuclear program which has received the majority of its development funding from the private sector.

The value of the HTGR for process heat applications has been recognized internationally with over $1.3 billion being invested in the technology to date. Both West Germany and Japan have well established HTGR development programs with 1981 national budgets of $250M and $25M, respectively. Formal HTGR cooperative programs have been established at both the government and private level with Germany, which include the exchange of both technology and personnel. Similar relationships are under development with Japan.

III. MULTI-YEAR SCOPE AND SCHEDULE HTGR Cogeneration (HTGR) Lead Project

The current program is focused on the development and demonstration of a 2240 MW thermal HTGR process steam/cogeneration plant. To minimize the magnitude and open ended nature of the financial commitment, the program has the following features:

1. A phased program with decisions required at defined milestones.
2. The requirement for technical participation by an organized users group (Gas Cooled Reactor Associates) which also functions to establish the plant owner/operator and develop the private sector cost and risk-sharing mechanisms.
3. The requirement for the private sector to provide the substantive funding of the construction of the HTGR demonstration plant.

These features serve to focus the government's investment principally on the development and proof testing of the HTGR technology for the demonstration facility. Financial and performance risks would be well defined and shared among users, suppliers and the government. The progress of the program through the several phases preceding construction of a demonstration plant would require agreement at each phase by all the participants on cost and risk-sharing in the next phase.

Phase I (Program Definition - FY'81) is being directed toward reviewing and prioritizing the HTGR design and development requirements for an HTGR process steam cogeneration plant project. Candidate plant operators and sites are being identified. Detailed program planning for Phase II will be completed. The HTGR technology development will continue to focus on the near-term applications of the HTGR. The milestones identifying the completion of Phase I consist of:

1. HTGR Lead Plant definition
2. Identified candidate operators and sites
3. Detailed program plan (including costs and benefits) for following phases.

Specifically during FY'81 the HTGR Applications Program will advance the HTGR-Process Steam/Cogeneration plant conceptual design by completing the top-level technical documents and specifications. Design of key critical path components such as the steam generator and circulator will be significantly advanced. Evaluation of safety features in light of the Three Mile Island accident will be completed. Technology development requirements will be identified and long-term design and development plans for major systems and components of the HTGR-NSS will be issued.

During FY'81 the HTGR Technology Program will continue work on development of low-enriched uranium/thorium fuel cycle. The reference fuel form, fuel process and details of the fuel cycle will be selected. Basic data, information and technology in the areas of structural materials, safety and nuclear heat source components will be provided. Critical path component design verification testing will be initiated.

Phase II (Project Definition - FY'82 and FY'83) is focused on the preparation of a decision package for proceeding to Title I design. This decision package will contain the plant conceptual design, schedule and cost estimates, Environmental Impact Statement (EIS), and project management plan. During Phase II, the lead plant operator/owner and a site will be identified. Generic Licensing topical reports will be completed and reviewed with the NRC. The HTGR technology development efforts will be directed principally to support the conceptual design and licensing efforts, including testing of key components.

Phases III and IV (FY'84 - FY'87) will be devoted to the development of Title I (Preliminary Design) and Title II (Final Design) designs and the associated licensing efforts. The output will include successively more detailed cost estimates and schedules, as well as the management and cost sharing plan. At the conclusion of Phase IV, firm priced bids will be available on all major plant components. These outputs will provide the decision packages for proceeding to Phase V, Demonstration Plant Construction.

The primary responsibility of the government in the HTGR Cogeneration Project Program will be to support the development of the appropriate technology and first-of-a-kind design. The commercial value of the demonstration plant will be supported by the private sector. Both the government and private sectors would share in the first-of-a-kind capital costs.

IV. MULTI-YEAR BUDGET ESTIMATE

Projected 2240 MW(t) HTGR Cogeneration Project Funding, FY'81 - FY'94 (1980 $M)

Summary of financial participation over program life.

- First-of-a-kind Nuclear Design and Development, Technology Development	$ 350 Government
- Equivalent Plant Commercial Value	$ 763 Private
- First-of-a-kind Plant Capital Costs (sharing determined prior to commitment to build)	$ 138 Joint (Government and Private)
- Total Program Cost	$1251

Funding Schedule - Cogeneration Project Nuclear Design and Development, Technology Development (1980 $M)

Phase I - Program Definition (FY'81)	$ 26
Phase II - Project Definition (FY'82, '83)	$ 82
Phase III - Title I (FY'84, '85)	$109
Phase IV - Title II (FY'86, '87)	$ 79
Phase V - Title III (FY'88, '89)	$ 32
(FY'90, '91)	$ 17
(FY'92-'94)	$ 5
TOTAL	$350M

V. HTGR FY'82 BUDGET DETAIL

HTGR Plant Design and Technology	$ 45M
Advanced HTGR System Technology	10
Fuel Treatment Technology	5
TOTAL	$ 60M

Recommended HTGR Program Approach

The $60M request for FY'82 funding of the HTGR program will provide the following:

Establishment of a coordinated and integrated overall HTGR Program Plan, which will:

1. focus the overall technical effort,
2. lead to a demonstration of design and process technology, licensability and operability of the HTGR, and
3. establish the industrial capability and technical basis for all HTGR systems.

The phasing and private sector participation in the program will minimize risk and open ended commitments to all participants.

In addition, the HTGR Fuel Treatment Program directed by the Oak Ridge National Laboratory will be continued with FY'82 funding of $5M.

Recommended NRC FY'82 HTGR Program

We also recommend the Committee restore a $3.5M funding level for NRC reactor safety research in FY'82 to pursue critical licensing efforts to carry forward the HTGR program outlined above.

HTGR CHARACTERISTICS

- HIGH LEVEL OF INHERENT SAFETY
  - ADDED PLANT INVESTMENT PROTECTION
- ELECTRICAL GENERATION AT HIGH NET THERMAL EFFICIENCY
  - LOW COOLING WATER REQUIREMENTS
- LOW RADIOLOGICAL DISCHARGES
  - REDUCED PLANT OPERATOR EXPOSURES
  - SMALL OFF-SITE RELEASES
- FLEXIBLE URANIUM/THORIUM FUEL CYCLE
  - REDUCES U_3O_8 REQUIREMENT 25-50%
  - USE OF LOW TO HIGH ENRICHED FUELS
- LESS SUSCEPTIBILITY TO TRANSIENTS OR UNEXPECTED OCCURRENCES
  - HIGH "THERMAL INERTIA"
- GREATER ACCESSIBILITY TO EQUIPMENT DURING PLANT OPERATION
- HIGH TEMPERATURE CAPABILITY ALLOWS INDUSTRIAL AND PROCESS APPLICATIONS
  - DISPLACES FOSSIL FUELS IN NON-ELECTRIC AREAS

HTGR SYSTEMS & NATIONAL ENERGY ROLES

HELIUM OUTLET TEMP

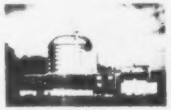
950°C
VERY HIGH TEMPERATURE PROCESS HEAT
- THERMOCHEMICAL HYDROGEN PRODUCTION
- DIRECT COAL GASIFICATION

850°C
PROCESS HEAT FOR REFORMING
- SUBSTITUTE PIPE LINE GAS
- TRANSPORTATION LIQUIDS
- THERMOCHEMICAL ENERGY TRANSMISSION

HIGHER EFFICIENCY (50%) GENERATION
- ECONOMICAL DRY COOLING
- COGENERATION

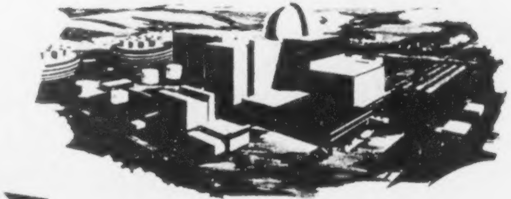
750°C
HIGH EFFICIENCY (40%) ELECTRICITY GENERATION

PROCESS STEAM
- PROCESS & SYNFUEL INDUSTRIES
- CHEMICAL/PETROCHEMICAL INDUSTRIES
- HEAVY OIL, TAR SANDS RECOVERY

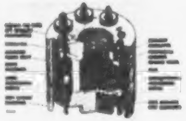


PEACH BOTTOM NO. 1
PROTOTYPE 40 MW(e)

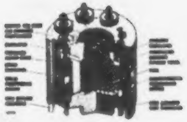
FORT ST. VRAIN
DEMONSTRATION
330 MW(e)



HTGR LEAD PLANT
860 MW(e)/CO-GENERATION



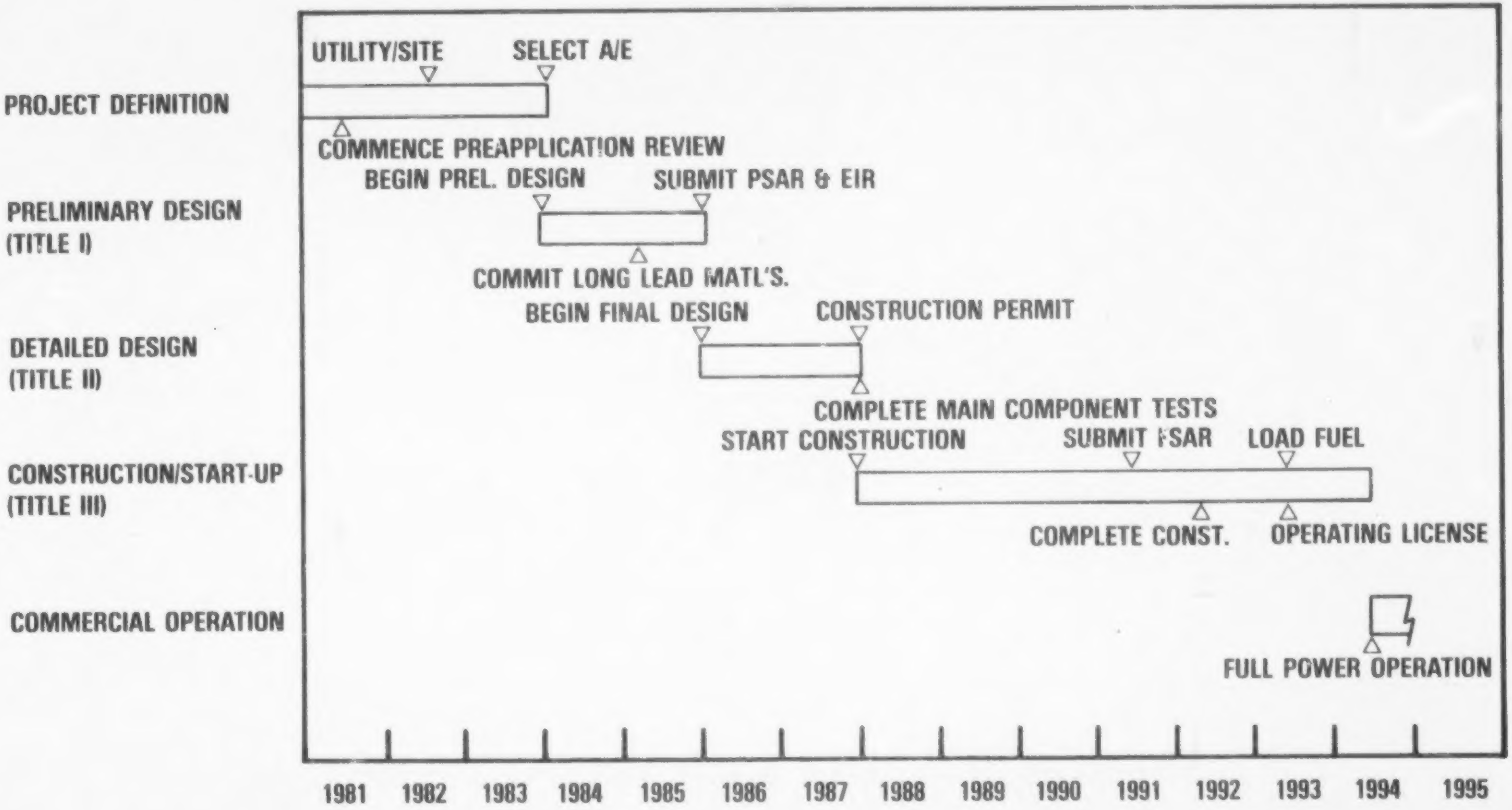
HTGR PROCESS HEAT



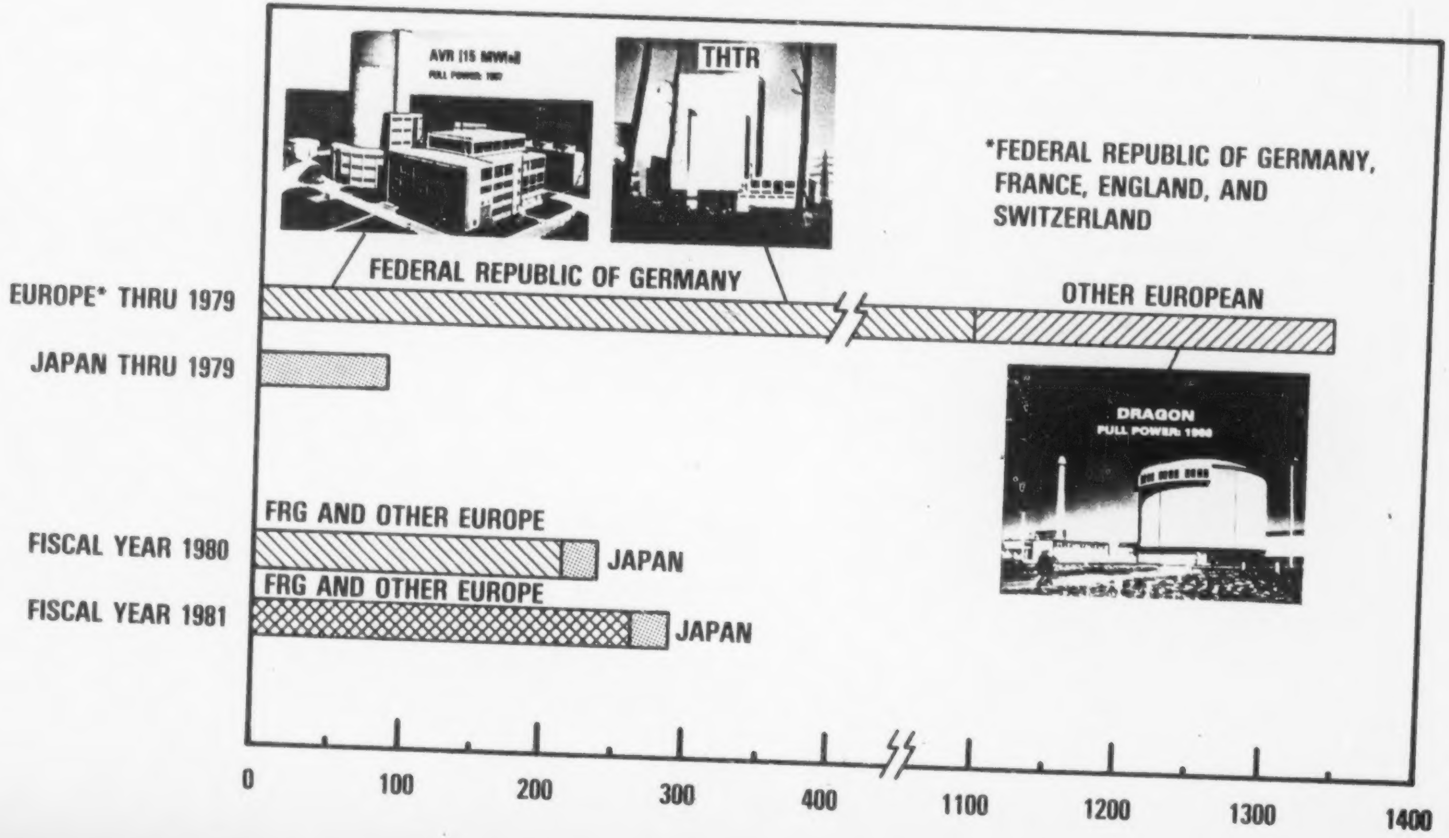
VHTR

HTGR GAS TURBINE

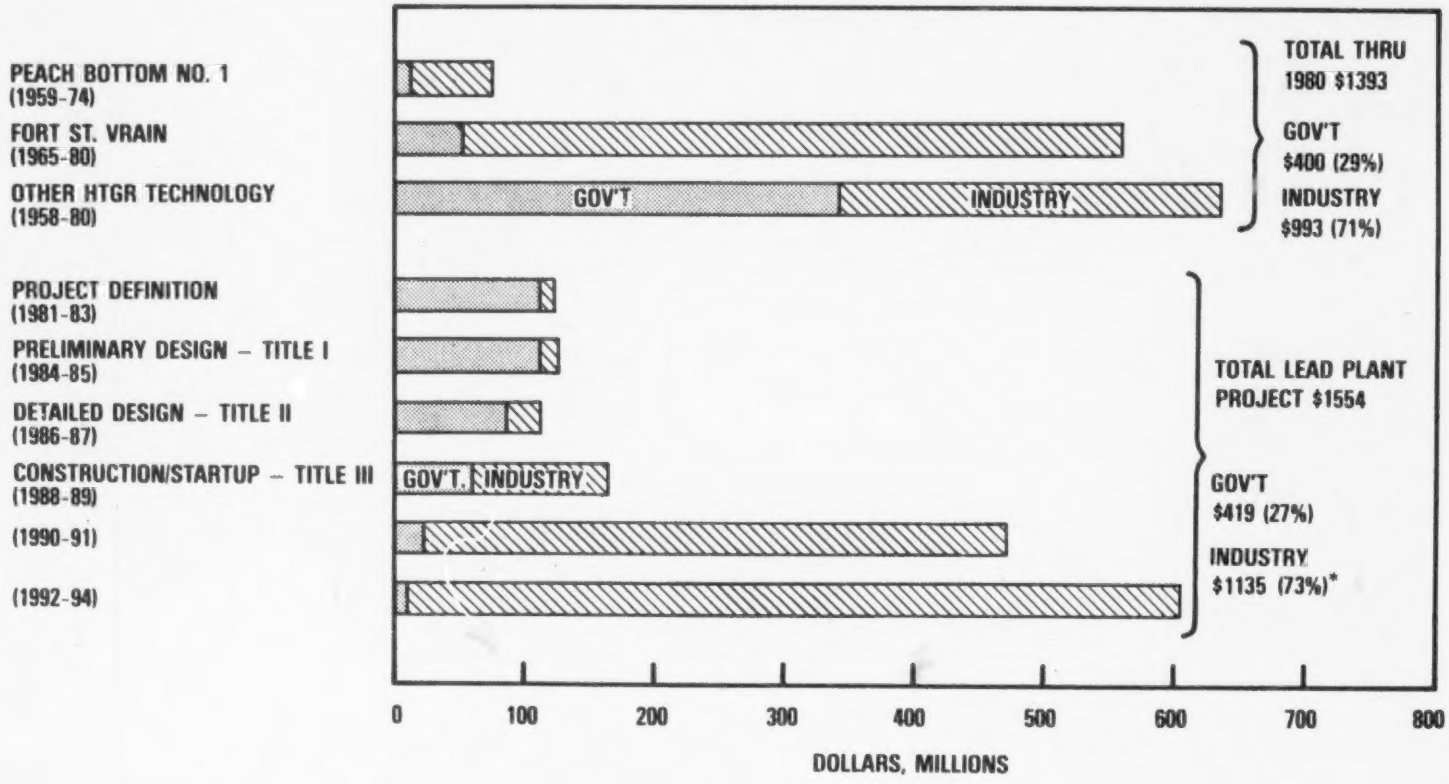
HTGR LEAD PLANT SCHEDULE



INTERNATIONAL HTGR PROGRAM FUNDING

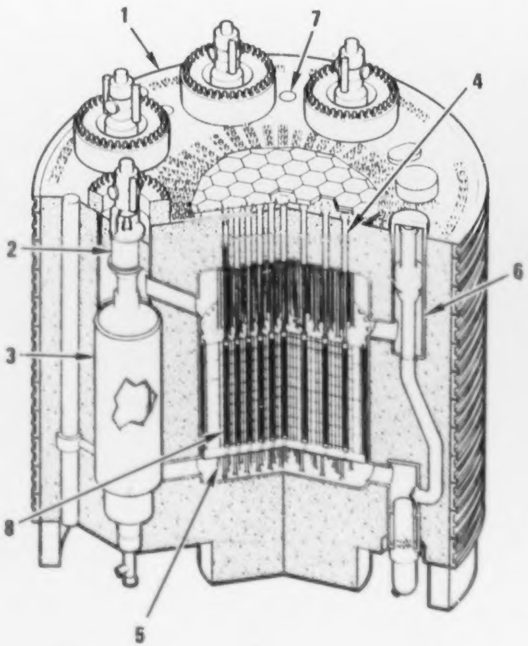


DOMESTIC HTGR PROGRAM FUNDING



* INCLUDES INTEREST DURING CONSTRUCTION

COMPARISON OF COMMERCIAL AND HTGR-RPR DESIGN



	COMMERCIAL STEAM CYCLE PLANT	REPLACEMENT PRODUCTION REACTOR
1	PRESTRESSED CONCRETE REACTOR VESSEL (PCRV)	SAME
2	HELIUM CIRCULATORS	SAME
3	STEAM GENERATORS	SAME
4	CONTROL ROD DRIVES	SAME
5	REACTOR INTERNALS	SAME
6	CORE AUXILIARY COOLING SYSTEM	SAME
7	HELIUM PURIFICATION & PUMP DOWN SYSTEMS	CAPACITY INCREASE
8	CORE	SAME (MODIFY FUEL LOADINGS & FUEL CYCLE TO ACCOMMODATE TARGET MATERIAL)
X	TURBINE PLANT	MODIFY SECONDARY SYSTEM TO ALLOW OPERATION WITHOUT POWER PRODUCTION
Y	FUEL HANDLING	MODIFY REFUELING EQUIPMENT TO HANDLE PRODUCT TARGETS, ADD TARGET STORAGE HANDLING CELL(S)

STATEMENT OF RICHARD F. WALKER, PRESIDENT, PUBLIC SERVICE CO. OF COLORADO

Senator COCHRAN. Mr. Walker is next.

Mr. WALKER. I am Richard Walker, president of the Public Service Co. of Colorado. This is a group that represents about 25 percent of the electric generating capacity in the United States. This particular group was formed in 1978 to continue to work to keep this HTGR option open as the source of generation for the electric utilities business.

As Dr. Agnew points out, it is not only good for electric generation, but it is good for cogeneration—it makes steam. It can be transferred to remote sites and you can go to the reformer application where you could use the hot helium of the reformer and go to the pipe system and catalyst, getting hydrogen and carbon monoxide that you can transport 200 miles of process heat for synthetic fuel industries.

There is a possibility for the turbine and direct cycle which is essentially no water and the system is compatible to the time when you need a breeder, it is also compatible to what Dr. Agnew talked about, industrial reactor.

UTILITY PARTICIPATION

Utilities have put about $200 million into the gas-cooled reactor system. The Fort St. Vrain plant is now operating and we think because of the advantages of this system, its application for process heat, synthetic fuel, this process should be allowed to go forward.

And we were dismayed when the Department of Energy came in zero or a little like some of your earlier testimony today where we were zeroed out. It is difficult to keep a program going and use this technology with no funds from the Federal sector at all.

We are proceeding with a lead plant called the steam cycle, possible cogeneration. We have six of our utilities that we expressed an interest in proceeding with this lead plant. The Florida Light Co., Dade County, is doing site studies and we are very interested in being the lead utilities. Public Service Electric & Gas Co. is interested, particularly from not only electricity but cogeneration or steam, but uses some of their industrial customers. Also in the west the Hydro Power Co. is in proximity to the synthetic fuel industry, and the reactor test station is also very interested.

We certainly hope there is some way—and we recognize the restraints on budget—that this process can go forward and not be zeroed out.

We would appreciate any consideration you can give in helping us keep this program going. It has short-term and long-term implications on the whole energy issue and I am proud to be associated with it.

As Dr. Agnew indicated, the figures that go along with the schedules that you say was some $55 million of the project and advance concept and some $5 million for fuel cycle development, and $5 million for the NRC safety-related work.

In the interest of time, there is much more detail in my prepared statement, but I will conclude there. Thank you.

[The statement follows:]

STATEMENT OF RICHARD F. WALKER, PRESIDENT, PUBLIC SERVICE CO. OF COLORADO, AND CHAIRMAN, GAS-COOLED REACTOR ASSOCIATES

Mr. Chairman and Members of the Subcommittee, my name is Richard F. Walker, and I am President of Public Service Company of Colorado. As Chairman of Gas-Cooled Reactor Associates (GCRA), I appreciate the opportunity to appear before you today in support of the High-Temperature Gas-Cooled Reactor (HTGR) Program.

After the past year's significant progress within the HTGR Program, we are dismayed by the recent action by the Administration to precipitously terminate this Program. This action has not had the benefit of detailed discussions between industry and government officials. As you are aware the utility industry's available options with respect to expanding its generation capacity have been restricted for various economic and political reasons. If we are to continue to provide the Nation with a reliable source of low cost energy it is essential that we continue to replace and expand our capacity in a fashion acceptable to the public. The HTGR offers the Nation an advanced nuclear alternative that has the potential of meeting a number of these issues and, thus, is an important option to utilities and to the Nation. Termination of this Program would limit our energy options and eliminate the potential for the HTGR to contribute to our future electrical and industrial energy requirements. I strongly recommend to this Subcommittee the restoration of a viable HTGR Program.

The utility industry has a long history of support for the development and commercialization of the HTGR. Through participation in various organizations that have provided technical guidance and financial support, utilities have spent approximately $200 million on the HTGR. At the present time, utility interest and support for the HTGR Program are represented through GCRA, a Utility/User organization that was established in February 1978. GCRA has grown to represent over 25% of the installed generation capacity in the U.S. In addition, GCRA utilities represent approximately 25% of the on-line nuclear capacity and about 40% of the capacity currently under construction. This background of nuclear experience provides GCRA with a sound base for evaluating and comparing the characteristics of the HTGR as an alternative nuclear energy source. GCRA's role in the HTGR Program is responsive to the institutional need for front-end participation in technology development by the end-user of the technology. This role ensures that the investment of government and private sector resources will result in HTGR systems that will most favorably impact the U.S. energy economy. Utility financial support, through GCRA, for the HTGR Program has steadily increased to a level of about $2 million in 1981. These funds support a full-time staff that represents Utility/User interests within the programmatic activities, such as site and application studies, plus provides overall Program integration support to DOE. To date, utility support has been instrumental in the design and construction of two HTGR facilities: the Peach Bottom prototype HTGR at Philadelphia Electric Company and the Fort St. Vrain demonstration plant which is currently operating and providing electricity for Public Service Company of Colorado. Since 1978, Fort St. Vrain has generated over 2 billion KWhs. With a design rating of 330 MWe, the plant has successfully operated for sustained periods of time near 70% power. With the recent release from the Nuclear Regulatory Commission, efforts are underway to proceed to higher power levels for test operations.

Fort St. Vrain has provided critical confirmation and demonstration of many key HTGR concepts. Significant is the HTGR's excellent fuel performance and the resulting low radiation exposure to plant personnel. There has been excellent correlation between predicted fuel performance and observed data. Other major contributions of Fort St. Vrain have been in the areas of core physics confirmation, plant control and response, and plant performance at high temperatures. Plant operating experience to date has demonstrated predictable, easily managed performance even during extreme modes of operation, including temporary loss of forced cooling. The high core heat capacity has shown temperature transients to be slow, predictable, and easily controlled. Fort St. Vrain has also demonstrated high-performance and high-temperature capabilities. Operation to date has achieved 1400°F primary loop and 1000°F steam temperatures--the highest of any nuclear plant in the U.S. Public Service Company of Colorado is pleased to be playing a key role in the development and demonstration of the HTGR concept.

GCRA's constituency also includes potential industrial process heat users who are interested in employing the HTGR in energy-intensive industries such as petroleum refining, chemicals, and metals as well as the emerging synfuel industries. A Process Heat Advisory Committee has been established within GCRA to provide a forum for process heat users to interact with utilities and provide input and support to the HTGR Program.

Vendor/supplier support for the HTGR Program was initiated through the General Atomic Company (GA), which is jointly owned by the Gulf and Royal Dutch Shell Oil Companies. The private investment by GA in excess of $700 million has contributed to the Peach Bottom prototype HTGR and to the Fort St. Vrain HTGR demonstration plant as well as to the technology embodied in the current HTGR designs. More recently, the General Electric Company (GE) has become an active participant in the HTGR Program. Primary interest to date has been directed toward the process heat/cogeneration applications and the supporting materials technology development. Other key industrial entities that are involved in the HTGR Program include: Bechtel National, Inc., Combustion Engineering, United Engineers and Constructors, and United Technologies Inc. This broad cross section of industrial participation offers the potential to provide the full design and manufacturing capability to deploy HTGR systems. As sound and stable support is established within the government and Utility/User projects are identified, the natural competitive forces will merge to establish a viable commercial infrastructure for supplying the HTGR.

Another important area of Program support comes from international efforts aimed at developing the HTGR technology. The most active efforts are under way in the Federal Republic of Germany (FRG), Japan, and Switzerland. Of the foreign programs, the program in the FRG is the largest and most experienced. Since 1960 the FRG has invested approximately $1.5 billion in HTGR development. The current emphasis of the German program is the completion of a 300-MWe HTGR-Steam Cycle demonstration plant, which is expected to begin operation in 1984. At the present, the German utilities in cooperation with the German coal and gas companies are investigating a follow-on HTGR-Steam Cycle/Cogeneration project in conjunction with a coal gasification facility. In support of the overall U.S./German cooperation on HTGR technology development, a cooperative agreement between GCRA and a group of German utilities has been developed. Signing of this agreement is projected during the spring of 1981.

As presented in our testimony before this Committee last year, GCRA, in cooperation with all Program participants, has been under way with a comprehensive effort to identify an HTGR Lead Project. During 1980, a detailed evaluation of the Lead Project candidates has been conducted that has served to establish a consensus on the status and merits of the technical, economic, and market characteristics of various HTGR systems. The Lead Project evaluation effort has also served to better focus the ongoing technology development programs supported by DOE. Copies of the detailed reports on each Lead Project option have been issued to members of the Subcommittee staff. Through the Lead Project evaluation effort, the HTGR-Steam Cycle/Cogeneration (SC/C) system has been identifed by the Program participants as the primary Lead Project system for the following key reasons:

- The technical feasibility of the system is assured through the Fort St. Vrain demonstration plant plus long-standing design experience.

- Relative to the other Lead Project options, the HTGR-SC/C system requires the fewest resources, involves the fewest technical risks, and can be deployed on the earliest schedule. Accordingly, this option warrants the greatest private sector financial support.

- The HTGR-SC/C system can serve a large potential market that ranges from baseload electricity to industrial process steam. In particular, the system is ideally suited for cogeneration with central, baseloaded industrial applications such as petroleum refining, enhanced oil recovery, and synfuels.

- The development of the HTGR-SC/C system provides a large fraction of the technology required for the more advanced HTGR systems. Further, deployment of the HTGR-SC/C system advances the industrial infrastructure that assures access to the advanced HTGR systems.

Because of these factors, we feel strongly that the HTGR-SC/C system merits a high priority for government support as the HTGR Lead Project. Upon confirmation of the licensing and economic performance of the Lead Project, commercial follow-on systems may be deployed.

An attractive feature of the HTGR technology is the evolutionary applications for broadened energy markets. For example, used in conjunction with molten salt as the heat transfer medium, the HTGR-SC/C evolves into a system which has the ability to store and transport heat over distances in the range of 50 miles, making it ideally suitable for distributed and/or load-following cogeneration applications. This system is referred to as the HTGR-Sensible Energy Transmission and Storage (HTGR-SETS).

A more advanced concept, the HTGR-Reformer (HTGR-R) system provides heat storage and transportation over even longer distances. In the HTGR-R application, a portion of the reactor thermal energy is converted to a storable/transportable energy form through the use of a highly endothermic, reversible chemical reaction whereby methane and water are combined in the presence of a catalyst to form a synthesis gas of hydrogen and carbon monoxide. The balance of the reactor thermal energy is used for base load electricity generation through the conventional steam cycle. In a closed cycle application, the chemical energy is transported to remote locations utilizing the Thermochemical Pipeline (TCP) and converted to thermal energy through an exothermic methanation reaction providing delivered heat in the range of 600°C/1100°F. Through the TCP, the HTGR can serve dispersed industrial customers over a range of 200 miles. In open-cycle applications, the HTGR-R can be directly coupled to processes which utilize large quantities of hydrogen and carbon monoxide such as the ammonia and methanol industries. Because peak reforming temperatures in excess of 1300°F are required to achieve suitable conversion efficiencies, the HTGR is uniquely capable of supplying these requirements. Furthermore, all of the process heat application versions (HTGR-SC/C, HTGR-SETS and HTGR-R) are readily adaptable to synfuel production and enhanced oil recovery applications.

Through an HTGR-SC/C Lead Project, the industrial infrastructure would be established that would be capable of deploying commercial HTGR systems by the turn of the century for the generation of electricity and/or process steam. Given the commercial deployment of the HTGR-SC/C system, the development of other HTGR system concepts can be readily achieved. In addition to HTGR-SETS and HTGR-R for process heat/cogeneration applications, access to the HTGR-Gas Turbine (HTGR-GT) for efficient (~40%) electricity generation with dry cooling can be pursued as cooling water scarcity becomes a severe problem. Alternatively, the HTGR-GT may be coupled with bottoming power cycles that achieve efficiencies in the range of 47% or with cogeneration applications that require low temperatures such as district heating. In fact, combining the LMFBR fuel technology and the HTGR-SC/C technology would provide eventual access to an alternate breeder concept--the Gas-Cooled Fast Breeder Reactor (GCFR).

Clearly then, the HTGR system is an energy option that has the multi-application and evolutionary flexibility which can adapt to many market requirements and resource concerns in the energy supply picture. Furthermore, the safety and environmental impact features of the HTGR provide added margin for enhancing its economic life. These features result in minimal reliance on engineered safety systems, greater siting flexibility, and added plant investment protection.

In support of the efforts to establish a Lead Project, GCRA has undertaken efforts to identify and develop candidate Lead Utilities that would build and operate the HTGR Lead Plant. To date, six utilities have expressed interest in investigating a Lead Project. Interests range from electricity generation at Florida Power and Light Company to process heat/cogeneration applications at Public Service Electric and Gas Company, to a developmental application, such as oil shale processing, involving Idaho Power Company and the Idaho National Engineering Laboratory. Studies are ongoing to evaluate specific sites and applications, which are oriented toward establishing a Lead Project as well as follow-on projects.

Regarding the cost-sharing arrangements for the Lead Project, it has been GCRA's consistent intent that the Lead Utility will finance the construction of the Lead Plant to the extent of its commercial value. In addition, the utilities through GCRA and EPRI will support a share of front-end costs associated with the Lead Project. Vendor/supplier support for the Lead Project is expected through an industrial team that will provide the design and manufacturing capabilities required for the Project. It is expected that the vendor/supplier team would share in the Lead Project risks through fixed/incentive prices on the plant components and fuel supply, and provide a broadened vendor/supplier infrastructure for subsequent HTGR commercial plants. Government support is required for the front-end design and development of nuclear systems and components, fuel cycle development and demonstration, and a share of the Lead Project costs and risks over and above the Project's commercial value. The details of such cost-sharing arrangements await serious attention by the appropriate government officials and the ensuing negotiations between the Program participants.

Regarding government support for FY 1982 at the Department of Energy, GCRA urges the Energy and Water Development Subcommittee on Appropriations to support the ongoing efforts to establish a National HTGR Program and Lead Project. In particular, stable government support is required to complete Program Definition activities and to engender a Lead Project commitment by the private sector. The near-term Program should provide the information required for such a decision with emphasis on the design and development activities required for a HTGR-SC/C Lead Project. Additional design and development should be included to support advanced follow-on systems. A target schedule for the HTGR-SC/C Lead Project has been developed that leads to a Project Authorization in 1984 and to plant startup in 1994. A DOE funding level of $55 million in FY 1982 is required to support this schedule and continuing development of advanced HTGR systems. Further, it is recommended that the HTGR Fuel Recycle Program be continued at a funding level of $5.0 million.

In order to support the safety and licensing aspects of the HTGR Program, adequate support and funding is required to support ongoing safety-related research and preapplication review activities within the Nuclear Regulatory Commission (NRC). The recommended FY 1982 funding level for HTGR-related activities at NRC is $5.0 million. In addition, a long-term Program Plan for NRC activities in support of the HTGR Program needs to be established.

The Utilities/Users of Gas-Cooled Reactor Associates believe that the HTGR offers significant advantages to the Utility/User industry and the Nation as a whole. Accordingly, we urge that a National HTGR Program be established that supports an aggressive Lead Project.

Mr. Chairman, that concludes my prepared statement. Thank you for the opportunity to present the utility viewpoint to your Subcommittee. I would be pleased to answer any questions.

HTGR ADVANTAGES

Senator COCHRAN. Mr. Walker, thank you. We appreciate your being here and discussing this proposal with us.

Senator Johnston, I know you are familiar with this project.

Senator JOHNSTON. I think we really ought to continue this project for all the reasons stated. It is a very good source of high process heat which the other nuclear reactors are not. Light water reactors are, I think, frankly safe, but these are safer. You don't have the so-called risk of meltdown in these reactors. And part of our problem in nuclear power is not just safety, it is a problem but the perception of safety, and that gives extra margin because you do have the almost incapability of a burndown that would resist much greater heat over much longer period of time than would light water reactors.

As Dr. Agnew says, there is the possibility of using this reactor to generate tritium that our other reactors are now replacing. We need a new tritium reactor. Tritium is the gas that is used in all of our nuclear weapons, and we must have that capability.

I thought, frankly, last year, we made our grand compromise when we allowed the gas-cooled breeder to be terminated and kept the HTGR. I don't understand why this year the HTGR is again zeroed out. It doesn't make much sense to me and I think we ought to provide additional money. Your request is $55 million plus $5 million and another $5 million for NRC?

FUNDING REQUEST

Mr. WALKER. Yes, $55 million would be for the project, $5 million for the fuel cycle work, and $5 million on Nuclear Regulatory Commission budget.

Senator JOHNSTON. What is the minimum we can get by with to keep this effort alive?

Mr. Walker. To meet the schedule?

Senator JOHNSTON. We are not worried about the schedule.

Mr. WALKER. Obviously, Senator, to keep something you can't get as much done and it stretches everything out. What the bare minimum would be is a little difficult to say.

Mr. AGNEW. I would say if you have $40 million and you say that money is directed toward the plant—I hate to see giving up at this time the process heat work—but clearly if we follow the plant, the main thing is the plant described in the item there as $45 million. We believe it is listed as $45 million plus $10 million plus $5 million. I would say $40 million for the plant, about $3 million for the fuel work which would be a total of——

Senator JOHNSTON. If we get the votes to do it, we have to rob Peter to give to Paul.

Mr. AGNEW. That number would be the same as last year, $43 million.

Senator JOHNSTON. Can't we get that number down some?

Mr. AGNEW. If you do it, I would concentrate on the plant aspect and let the advance work slide.

Senator COCHRAN. Thank you very much for being here. We appreciate your testimony.

PREPARED STATEMENT

Before we recess, I would like to make part of the record a statement from the Helium Breeder Associates. Without objection, we will include that statement at this point.

[The statement follows:]

STATEMENT OF RALPH M. DAVIS, CHAIRMAN OF THE BOARD, HELIUM BREEDER ASSOCIATES

Thank you for the opportunity of allowing me to present testimony to your committee. I am Ralph M. Davis, Chairman of the Board of Helium Breeder Associates (HBA), and I am speaking to you today as a representative of approximately 74 utilities and industrial participants who are members of HBA and who have contributed significant financial support to the development of Gas-Cooled Fast Breeder technology.

The Gas-Cooled Fast Reactor (GCFR) program was terminated by the Carter Administration at the end of fiscal year 1980. We, along with the General Accounting Office, believe that this decision was premature and we urge you to reinstate this program as part of the national breeder program.

Helium Breeder Associates believes that nuclear energy is essential to the future well being of this country and that a long term role for nuclear energy in our future energy economy can be assured by a strong program to develop breeder reactors. We are pleased to see that the Reagan Administration has increased the breeder budget significantly. However, that budget is all related to the Liquid Metal Fast Breeder Reactor program and as such lacks the diversity of supply which is the hallmark of the American System. We concur with the recommendation to the Congress in the GAO report "U S Fast Breeder Reactor Programs Needs Direction"(1) that "A commitment to a long term nuclear option should include continued support for the Gas-Cooled Fast Breeder Reactor Program since it is currently the only real nuclear alternative to the LMFBR technology".

What if the LMFBR fails for technological, institutional or economic reasons to fulfill its objectives? Without the GCFR the country has no long-term nuclear alternative. We are not interested in slowing down the mainline LMFBR Program. However, we feel that it would be only prudent to spend a small fraction of the national breeder program funds on the GCFR to enhance the probability of ultimate success and to provide technical insurance.

Although most of the world wide effort has gone into the LMFBR, a complementary effort toward a GCFR has made significant progress on an international scale. The GCFR is an advanced breeder reactor which uses helium for cooling leading to a number of potential advantages. They include:

(1) The transparency of helium to neutrons which inherently results in a very high breeding ratio.

(2) An apparent energy cost lower than any other power reactor as indicated in economic studies done by a leading architect-engineering company for DOE.(2)

(3) Considerable easing of operating and maintenance problems because helium is a transparent and chemically inert gas.

Recognizing that the cost of development of any brand new reactor concept is very high the GCFR has been designed to make maximum use of helium system and component technology which has been demonstrated in the Fort St. Vrain Gas Cooled Reactor and fuel and physics technology which is being developed under the LMFBR program, both in this country and elsewhere. Hence the program is incremental in nature and the estimated cost of its development much less than that for a completely new concept. In fact, a funding level of 5% to 10% of the national breeder program would assure technical advancement of the program and the continuing interest of the utility industry.

The utility industry initiated support for the GCFR in 1964 following several years of private development by General Atomic Company. The utility interest stems from the desire to assure themselves of a long term source of fissionable material, to achieve the potential advantages of gas cooling, and to provide diversity of concept. In spite of the lack of government funding in FY1981, HBA has continued as a corporate entity and has not to date lost any members.

The AEC and its successor organizations, also supported the programs starting in FY1964 initially in the area of fuel development and later more broadly.

In Europe, two efforts evolved. One was an international industry group, Gas Breeder Reactor Associates (GBRA), which worked closely with the Nuclear Energy Agency (NEA) of the Organization for Economic Cooperation and Development (OECD). The other consisted of cooperative programs among General Atomic, Kraftwerk Union and the German Nuclear Research Centers at Julich and Karlsruhe and between General Atomic and the Swiss Federal Institute for Reactor Research.

Exchange of information among all parties was extensive so that there was no duplication of effort except where technically desirable, e.g., comparison of calculated breeding ratios.

Through 1980 over $200 million has been spent on GCFR-specific work as follows:

Industry	$25 million
DOE	$96 million
International	$101 million

All the design and development work which has been done to date, both in this country and in Europe, has given positive results and the prognosis for ultimately achieving the potential advantages of the GCFR is excellent.

At the end of FY1980 the program status was as follows:

(1) The Conceptual Design of the Nuclear Steam Supply System for a 350 MW(e) Demonstration Plant had been completed.

(2) Development plans had been completed for all major components and systems.

Safety and licensing have been key considerations throughout the life of the program. In fact, a large fraction of the utility funds has been devoted to this subject. In 1971, a Preliminary Safety Information Document (PSID) on the GCFR was submitted to the AEC's Directorate of Licensing. After extensive dialogue and meetings with the ACRS, a Safety Evaluation Report was issued in 1974 by the DOL and a letter written by the ACRS also in 1974 on their respective reviews.

Recently two amendments to the PSID have been prepared for submittal to and review by the Nuclear Regulatory Commission. They relate to important safety issues raised in the reviews.

Although the Administration terminated the GCFR Program in FY1981, residual funding has allowed some work to continue at several U.S. national laboratories, particularly ORNL. Also an in-pile loop continues to operate in the BR-2 at Mol, Belgium under German auspices and heat transfer experimental and analytical work is going on both in Germany and Switzerland.

All of this work will come to an end in 1981 unless funds for the GCFR are provided in FY1982. The feeling of the utility supporters of the program was well expressed at a Program Technical Review Meeting held in mid 1980. After hearing reports on the design and development work which was going on in Europe and the United States, one of the utility representatives said from the floor "You mean all of this wonderful work which is going on will cease?". This statement is echoed in the GAO report cited. "The utility companies and industrial and engineering firms involved also told us that their efforts would probably cease if DOE terminated its program. Officials of the Helium Breeder Association told us that without DOE funding, it would not be possible for them to carry out a viable program or maintain their organization's membership. And, officials of the leading industrial proponent of GCFR, the General Atomic Company, told us that if the DOE program is terminated, it is doubtful that they would continue to spend company funds to further the program."

If funding of $10 million were to be authorized and appropriated for FY1982, which would be less than 2% of the LMFBR budget, the program would have the objective of:

(1) Continuing to advance GCFR technology and maintaining and expanding the previously developed data base.

(2) Reinitiating dialogue with the NRC on the safety and licensability of GCFR.

(3) Maintaining a viable core group of technologists at key industrial contractors and national laboratories.

(4) Resolving key heat transfer issues.

Although these objectives are limited, they would maintain the program as a viable option and focus work in areas of greatest technical uncertainty. This work would all be a part of the National Breeder Base Program.

We agree with the above-cited GAO report in their recommendation to the Congress:

"Further, a commitment to a long-term nuclear option should include continued support for the gas-cooled fast breeder reactor program since it is currently the only real nuclear alternative to the LMFBR technology. Accordingly, GAO recommends that Congress continue to fund the program at least until the program reaches a decision point on whether to construct and operate a demonstration facility. Such an approach is essential as a prudent management step in helping assure the timely success of this Nation's nuclear energy future."

Thank you for the opportunity to present this testimony.

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(1) EMD 80-81 September 22, 1980.

(2) C004954-1 "Final Report and Initial Update of the Energy Economic Data Base (EEDB) Program Phase I" prepared for the Department of Energy by United Engineers and Constructors, Inc. December 1979.

SUBCOMMITTEE RECESS

Senator COCHRAN. That concludes the testimony that we will receive this morning. The subcommittee will now stand in recess until 2 p.m. this afternoon. We will meet again in this room.

[Whereupon, at 12:35 p.m., the subcommittee was recessed to reconvene at 2 p.m. the same day.]

(Afternoon Session, 1:45 p.m., Wednesday, March 25, 1981)

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Chairman **Hatfield**. The subcommittee will come to order.

We have a large number of witnesses that wish to be heard. Therefore, in accordance with the notification that we have sent to each of you, it will take some self-restraint on the part of everyone to keep your oral testimony to a minimum in order that all of you who have traveled many miles and worked hard on their testimony may be heard.

So, in keeping with the subcommittee's wishes, I ask that the detailed prepared statement that you have brought to the committee be submitted for the record where they will be carefully reviewed. If you will take the time to summarize or highlight the important points in your oral testimony, it would expedite the hearing procedures for us.

I apologize for not being with you this morning. I intended to chair these hearings today, but due to some rather important events that have occurred here in the last 24 hours, I have been called to a meeting with the Senate leadership in my role as chairman of the Appropriations Committee. I will have to depart before this hearing is completed. But, I would like to exercise the prerogative of the chairman and invite the representatives of the Oregon coastal ports to be the first witnesses—Port of Brookings, Port of Gold Beach, Port of Siuslaw, and the Port of Nehalem, represented by Mr. Tom Murray, Mr. Wilbur Ternyik, Mr. Jud Hunington, Mr. Stanley Jud, and Mr. Knight.

Nehalem Bay Rehabilitation, Oregon

STATEMENT OF STANLEY JUD, SECRETARY, PORT OF NEHALEM

Mr. **Jud**. Thank you, Mr. Chairman. I will make this very brief since you are rushed for time. On behalf of the Port of Nehalem and Mr. Knight, a member of the Tillamook Board of County Commissioners, we will submit our statement for the record and your consideration.

Chairman **Hatfield**. Thank you, Mr. Jud.

Commissioner Knight.

Mr. **Knight**. On behalf of the people of Tillamook County, we would take this opportunity to express our appreciation to your committee for the strong support that you have given us in the past.

Chairman **Hatfield**. Commissioner, I am proud to be working with you on these projects. All of you have played a very important part in the development of these ports and I know you are devoted to them. It has been a pleasure to work with you.

[The statement follows:]

STATEMENT OF STANLEY JUD, SECRETARY, PORT OF NEHALEM, OREG., AND F. E. KNIGHT, MEMBER, BOARD OF COUNTY COMMISSIONERS, TILLAMOOK COUNTY, OREG.

This is a joint statement by Stanley Jud, secretary of the Port of Nehalem, and F. E. Knight, a member of the board of county commissioners of Tillamook County, cosponsors in this presentation to support the administration's recommended $7.1 million to complete funding required for the rehabilitation of the deteriorated jetties at the entrance of the Nehalem River.

Our purpose in being here is to say, "Thank you."

Thank you for listening to our plea for the past 2 years to appropriate funding for the restoration of the Nehalem River entrance jetties that had been left by the Corps of Engineers to deteriorate for over 40 years.

The Corps of Engineers advance notice to advertise to prospective bidders for the rehabilitation of this project was mailed from the Portland district office of the Corps of Engineers last Thursday, March 19.

We respectfully request that you recommend appropriation of the $7.1 million now included in the President's fiscal 1982 budget recommendation to Congress to complete this estimated total funding for rehabilitation of this project.

Thank you.

SIUSLAW RIVER AND BAR PROJECT

STATEMENT OF WILBUR TERNYIK, COMMISSIONER, PORT OF SIUSLAW, OREG.

Mr. TERNYIK. I, too, will submit my statement. I am Wilbur Ternyik of the Port of Siuslaw. We want to thank the committee for the past considerations you have given us and help on the Siuslaw project.

[The statement follows:]

STATEMENT OF WILBUR E. TERNYIK, COMMISSIONER, PORT OF SIUSLAW, OREG.

My name is Wilbur Ternyik. I am a commissioner of the Port of Siuslaw. I have been a member of the Siuslaw Port Commission for fourteen years. Much of the Port Commission's effort since its inception has been spent in trying to secure completion of a properly functioning jetty system at the mouth of the Siuslaw River. We are getting close to the Port's goal now that the advance engineering and design of the authorized jetty extension project is well underway by the Corps of Engineers.

I am here first of all to extend our special thanks to this Committee for its generous assistance in the past in our behalf, and to ask you to support the $100,000 included in the budget recommendations before you which will permit the Corps of Engineers to complete planning of the authorized modification of the Siuslaw River navigation project.

Recognizing the severe restrictions placed on the Federal budget, and on our port authority's budget, we are asking this Committee to consider adding to the fiscal 1982 budget ~~$750,000~~ $231,000 in Operations and Maintenence funds, and 7.9 million dollars to initiate construction of the authorized modification of this project.

The ~~$750,000~~ $231,000 requested will be used for additional dredging to bring the needed dimensions to project depth. This is necessary to reduce hazards to navigation that now exist for all vessels using the waterway.

The skyrocketing annual Federal appropriations for maintenance of this channel project are reflected in the following figures obtained from the Corps of Engineers:

Fiscal 1977........	$ 325,000	Appropriated
" 1978........	563,000	"
" 1979........	397,000	"
" 1980........	973,000	"
" 1981........	885,000	"
Budgeted for Fiscal 1982........	$1,180,000	
Corps capability for Fiscal 1982........	$2,161,000	

In testimony before Congress in early 1979, the North Pacific Division Engineer admitted the Siuslaw River entrance channel can be dredged to an average depth of only 14 to 15 feet, and that depth is maintained for only about 2½ months during the summer season. The authorized project depth of this river entrance is 18 feet at mean lower low water, but the Corps of Engineers has never been able to maintain the 18-foot depth because of the lack of hopper dredging capability. Last year, after the Corps' hopper dredging was completed for the year, the 13th Coast Guard District issued its attached "Local Notice To Mariners #36" stating:

> Quote: "Siuslaw River Bar is experiencing heavy shifts of sand which are causing low water depths of 4 feet on the bar entrance range at low tide..... Mariners are urged to use extreme caution and to contact Coast Guard Siuslaw River...... prior to crossing the bar."
>
> End of Quote

The hazardous entrance conditions resulting from the lack of adequate and effective annual maintenance dredging leads to our request for the addition of 7.9 million dollars to the fiscal 1982 budget to start construction of the authorized jetty extensions that will reduce the entrance shoaling, the fast-growing annual cost of maintenance dredging, and ever-increasing total cost of the jetty extensions.

The Corps of Engineers' estimated cost for fiscal 1982 of the Siuslaw River modification project is 26.4 million dollars, or, over a 53% increase in the cost estimate of 17.2 million dollars as reported in the June, 1976, feasibility study by the Corps of Engineers. Delaying construction for even one year would mean an additional 10%, or more, in escalation in cost to this 26.4 million dollar project, or an additional 2.6 million dollars.

The authorized modification provides for an extension of 2,000 feet on the north jetty and 2,500 feet on the south jetty to provide jetties of even lengths. One of the larger economic benefits in justifying the improvements is the reduction in the maintenance dredging that will result.

We recognize the need for budgetary restraints at all levels of government, however, in this case, we feel that accelerating construction of a capital improvement project that will reduce increasing maintenance costs is a wise and practical expenditure of public funds.

We appreciate the opportunity of appearing here before you. Thank you.

COMMANDER, 13TH COAST GUARD DISTRICT LOCAL NOTICE TO MARINERS # 36

Note: Mariners are cautioned that portions of destroyed structures may remain.
Legend: TRLB - Temporarily replaced by lighted buoy showing same characteristic.
TRUB - Temporarily replaced by unlighted buoy.
TLt - Temporary light.

RECEIVED
SEP 15 1980
PORT OF SIUSLAW

DISCREPANCIES CORRECTED SINCE LAST NOTICE

LL or Page No.	Name of Aid	Status	Charts Affected	Reference
1192	Chetco River Entrance Light 5	Repaired	18602	LNM 33/80
	Columbia River Dredging Lighted Bell Buoy B	Discontinued	18521	LNM 27/80
p. 114	Lake Celilo Buoy 32	Reset	18533	LNM 35/80
p. 132	Columbia River North Channel Buoy 10	Reset	18521	LNM 28/80

GENERAL

OREGON - ROGUE RIVER - Shoaling Information -
Conditions on Rogue River Bar continue to deteriorate due to shoaling. Depths of 4.5 feet on the north side and 5.5 feet on the south side of the channel have been reported. The situation is being aggravated by current weather conditions. Mariners are urged to use extreme caution when navigating in this area.
Chart 18601.
LNM C. G. Seattle 25, 32, 33, and 35 of 1980.

OREGON - SIUSLAW RIVER - SHOALING - Information -
Siuslaw River Bar is experiencing heavy shifts of sand which are causing low water depths of 4 feet on the bar entrance range at low tide. The predominate part of the shoal is in approximate position 44° 01' 07" N. 124° 08' 30" W. and shifting in a southerly direction. Mariners are urged to use extreme caution and to contact Coast Guard Station Siuslaw River on VHF-FM Channel 16 prior to crossing the bar.
Chart 18583.
LNM C. G. Seattle 34 and 35 of 1980.

OREGON AND WASHINGTON- COLUMBIA RIVER - ENTRANCE TO HARRINGTON POINT - SECONDARY CHANNEL BAKER BAY - Shoaling Information -
Depth of 7 feet have been reported in Baker Bay West Channel Entrance between Baker Bay West Channel Entrance Jetty Light 1 (L.L. No. 2016.10) and Baker Bay West Channel Entrance Jetty Light 2 (L.L. No. 2016.11). Mariners are urged to exercise extreme caution when transiting this area.
Chart 18521.
LNM C. G. Seattle 31, 32, 33, 35 of 1980

WASHINGTON - LAKE WASHINGTON SHIP CANAL - Montlake Bridge - Information -
Permission has been granted to the City of Seattle Department of Engineering for temporary closure of the drawspan of the Montlake Bridge across Lake Washington Ship Canal. The drawspan will not open for the passage of vessels between the hours of 12:00 noon and 1:30pm and from 4:00pm to 6:00pm on 20 September 1980 in order to accommodate highway traffic in conjunction with athletic event at the University of Washington.
Chart 18447.

ADDITIONAL PREPARED STATEMENTS

Chairman HATFIELD. Any other comments, Mr. Murray?

Mr. MURRAY. Mr. Chairman, I have already submitted prepared statements from the Port of Brookings, the Port of Gold Beach, and the Port of Umpqua.

In the past, the Corps did not have the necessary dredging equipment to serve the coastal ports. Now that it does, the Corps does not have the funds with which to use this equipment and the statements are requesting small additions on maintenance dredging and one small addition.

That is all we have to say. The statements have been submitted. Thank you.

[The statements follow:]

STATEMENT OF LOU GIOTTONINI III, PRESIDENT, PORT OF GOLD BEACH, OREG.

My name is Lou Giottonini. I am President of the Port of Gold Beach, Oregon.

We are asking this Committee to consider our request for two additions to the Corps of Engineers' budget for fiscal 1982.

The first is for $100,000 required by the Corps to complete a model investigation of the Rogue River navigation project now underway at the Waterways Experiment Station at Vicksburg, Mississippi, and to complete the Corps' overall General Investigation report which will cost an estimated $792,000. This General Investigation was started 14 years ago in 1966.

We also ask that the Corps' capability of $492,000 for additional maintenance dredging be added to the $804,000 already budgeted for Operations and Maintenance, making a total appropriation of $1,296,000.

The port at Gold Beach, located just inside the mouth of the Rogue River, is landlocked again this spring as it has been for almost one-half of each year for the past three years.

The jetty system at the mouth of the river does not function properly. The alignment, length, and spacing of the entrance jetties permit sand to infill the navigation channel causing shoals which restrict safe vessel use this channel.

The sand shoaling, which restricts the use of port facilities, has devastated the financial condition of the port authority which is now operating at a deficit.

The economic hardships suffered by those in the communities and the port served by this federal navigation project is detailed in an attached letter of November 5, 1980, from the Gold Beach-Wedderburn Chamber of Commerce addressed to Senator Mark O. Hatfield.

The critical nature of the hazards to navigation, life, and property is illustrated in two attached letters from the U.S.Coast Guard to the Port of Gold Beach. The letter of 28 Aug 1980 referring to the summer Coast Guard Search and Rescue Patrol at Gold Beach states:

> "Continuation of silting conditions on the bar, to the point that our Motor Lifeboats could be prevented from transiting on a low tide, may necessitate an earlier termination."

In a letter a week later, dated 5 Sep 1980 the Coast Guard stated:

> "The Rogue River bar has been confirmed to be deteriorating rapidly due to sand deposits and lack of water flow from the Rogue River. This has made the channel extremely dangerous to transit with as little as 4 feet of water at low tide in the uncertain channel next to the south jetty. Recommend that all mariners avoid traning this area."

Structural correction to the improperly functioning jetty system at the mouth of the Rogue River is the obvious solution to reducing the excessive shoaling of the navigation channels.

The best engineering answer to such a correction, hopefully, will be forthcoming from the hydraulic model study now underway the Corps of Engineers Waterways Experiment Station.

We urge your favorable consideration of the two budget additions requested here in order to expedite completion of the Corps' General Investigation, and to alleviate the persistent shoaling problem by additional dredging. Thank you.

LETTERS FROM CAPT. F. W. OLSON, U.S. COAST GUARD

28 AUG 1980

President, Port Commission
Port of Gold Beach
Box 1126
Gold Beach, Oregon 97444

Dear Sir:

This is to advise you that I intend to terminate our summer Search and Rescue Patrol at Gold Beach as scheduled on 1 October 1980. Continuation of silting conditions on the bar, to the point that our Motor Lifeboats could be prevented from transiting on a low tide, may necessitate an earlier termination.

For your information, as of 20 August 1980, our Gold Beach unit has responded to 30 requests for assistance and 3 precautionary escorts across the bar this summer patrol season. The members of the summer patrol have expressed to me their appreciation of the cooperation they've experienced this year with the port and the boating public.

If I may be of any assistance to you or if you have any questions concerning this matter please call me.

Sincerely,

F W Olson

F. W. OLSON
Captain, U. S. Coast Guard
Group Commander

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5 SEP 1980

Dick Turnow
Port of Gold Beach
Box 1126
Gold Beach, OR 97444

Dear Mr. Turnow

Enclosed is a copy of our Marine Safety Broadcast on the Rogue River you requested:

> "The Rogue River bar has been confirmed to be deteriorating rapidly due to sand deposits and lack of water flow from the Rogue River. This has made the channel extremely dangerous to transit with as little as 4 feet of water at low tide in the uncertain channel next to the south jetty. Recommend that all mariners avoid transitting this area." This broadcast is scheduled to be broadcast at 0800, 1200 and 1600 (4 pm) until the Thirteenth Coast Guard District issues a local notice to mariners.

If you have any other requests, don't hesitate to contact our Group office at the above number.

Sincerely,

F W Olson

F. W. OLSON
Captain, U. S. Coast Guard
Group Commander

STATEMENT OF GOLD BEACH-WEDDERBURN CHAMBER OF COMMERCE, OREGON

The Gold Beach area is very dependent on the fishing and tourist industries, but due to severe bar conditions the community of Gold Beach, the Port of Gold Beach, and all those that depend on these industries for a living, are suffering an economical hardship as never before experienced in this area.

The Corps of Engineers put effort into trying to keep the "bar" open, but due to the lack of the right equipment and money, the bar remained closed except at high tides. It was closed at all times for boats 16 feet and under, and sometimes for boats 18 feet in length. As a result many of our tourists took their boats and left for other places.

The Rogue River Coast Guard Patrol broadcast to mariners to avoid crossing the Rogue River "bar". This resulted in a reduction of half the number of "transient" vessels, which amounted to over $8,000.00 in lost moorage fees to the Port of Gold Beach and an unknown amount which would be spent for groceries, etc.

Fish product poundage was down two-thirds to that of previous years, which resulted in thousands of dollars in lost revenue to the fish processing plants.

Lack of vessels being able to get into the Port of Gold Beach was responsible for the loss of approximately $50,000.00 in fuel sales and approximately $30,000.00 in lost ice sales.

To experience another season such as this season will be disastrous.

It is very evident the Corps of Engineers cannot keep a safe and sufficient bar under the present situation, so we plead with you for help in speeding up a solution to our problem, a jetty system which will work.

We thank you and look forward to your reply.

Statement of Elmer C. Rice, Commissioner, Port of Brookings, Oreg.

My name is Elmer C. Rice. I am the member of the Brookings Port Commission who is responsible for overseeing the Federal navigation project on the Chetco River.

The Port of Brookings requests this Committee to consider adding $158,000 to the $422,000 included in the fiscal 1982 budget recommendations now before you.

The Corps of Engineers indicates this additional funding capability, if appropriated, will, with weather permitting, provide an additional 12 days of dredging time on the Chetco River navigation project.

The additional dredging will restore project dimensions, thereby removing shoals in the navigation channel that result from the short and uneven jetties at the mouth of the river.

The Chief of Engineers' favorable report approving a 750-foot extension of the north jetty and a 1,250-foot extension of the south jetty is now before the Congress for authorization.

The modification of this navigation project is designed to extend the jetties to an even length and to a deeper depth in the ocean, thereby eliminating some of the annual maintenance dredging requirements.

The exceptionally high rate of unemployment in the port's tributary area resulting from months of closure of the major manufacturing forest products complex; the distressed state of the large commercial fishing fleet operating from the port; and the dire financial condition of the Port itself, makes it imperative that the Corps of Engineers' maximum capability for maintenance dredging be accomplished to relieve any vessel delays causing further economic distress to those using the port facilities.

We urge your favorable consideration of the additional $158,000 requested here.

Thank you.

Statement of Lester W. Thompson, President, Port of Umpqua, Oreg.

My name is Lester Thompson. I am President of the Port of Umpqua. I want to thank this committee for its generosity in the past in voting appropriations for the Corps of Engineers' rehabilitation of the north jetty and the expansion of a training jetty at the mouth of the Umpqua River.

The extended training jetty, which was completed last October, has resulted in a substantial scouring of a narrow river channel immediately alongside the extended jetty and seaward from the end. This natural scouring and deepening in one winter season indicates that the training jetty is beginning to serve the function for which it was designed.

There is a need now to widen the naturally-scoured narrow channel alongside the extended training jetty to remove a shoaled area, referred to as the "middle grounds", between the widely spaced jetties. Waves hitting this shoaled area causes breakers which carry across the newly- scoured narrow channel and strike the extended training jetty, reflecting back into the navigation channel and interacting with incoming waves. This wave action restricts some boats and contributes to a hazard to navigation that could be lessened by removing the shoaled area by dredging, allowing a channel to the 200-foot project width.

The Port of Umpqua requests this Committee to add $330,000 to the $1,001,000 already included in the fiscal 1982 budget for Operations and Maintenance to permit the additional dredging the Corps of Engineers is now capable of providing with the addition of its new hopper dredge YAQUINA coming into service on the Oregon coast in June 1981.

The need for a safer and more useable entrance for greater port activity was accentuated a few weeks ago, on March 6th, when the International Paper Company lumber and plywood plant closed temporarily due to the distressed market for forest products putting over 400 men out or work.

Thank you again for your assistance in our behalf.

NEHALEM BAY REHABILITATION, OREGON

Chairman HATFIELD. Let me just go over a couple of points for emphasis.

Let me take the Nehalem project. As you know, this is a very controversial project. It relates to some of the people in the area as well as people in other parts of the State. I wonder if you can summarize for the record once again from a historic perspective the Federal responsibility that really remains in this project based upon the initial construction and what was a commitment to contract with between the local people and the Federal Government initially.

Mr. JUD. Local funds constructed the jetties for the most part, over 50 percent, and the Federal money was provided to help complete the jetties in 1981, or along in there, with the agreement that the Corps of Engineers was to maintain the jetties, and that has not been done. Money was appropriated for maintenance, but was actually never spent on the jetties.

Chairman HATFIELD. Has there been any loss of life attributable to the lack of port maintenance?

Mr. JUD. Yes; 20 to 25 in the past 15 to 20 years. A couple in the past 60 days, and some near misses in the past month. So, there is both a contractual and historic responsibility.

Chairman HATFIELD. The Federal Government has not performed which has resulted in a danger to life and property?

Mr. JUD. That is correct. The bay is filling up with sediment and this is adding to the flooding problems upstream.

SIUSLAW RIVER AND BAR, OREG.

Chairman HATFIELD. Let me turn to Siuslaw. There is recognized not only the economic benefits that could be realized in starting this jetty extension in fiscal year 1982, but the savings that would result in lower annual operation and maintenance cost.

Do you have any estimate what the annual O. & M. cost will be when the jetty is complete at Siuslaw? If you don't have that with you, could we get it for the record?

Mr. TERNIYEK. I don't have that, but Mr. Murray could answer that.

Mr. MURRAY. I don't know if the figure has been updated. It was a sizable percentage in the Corps of Engineers' report, but since that report was completed in 1976, there have been many updates.

Based on the 1976 report of the Corps of Engineers' Portland District, the authorized extension of the Siuslaw River jetties will reduce the annual maintenance dredging requirement by approximately 64 percent. The Portland district report estimates an annual saving of 506,600 cubic yards from the jetty extensions. The Corps 1976 estimate of this dredging cost was $1.60 per cubic yard. The Corps current estimate of this dredging cost is $2.25 per cubic yard, or some $1.2 million annual savings at present price levels.

Mr. TERNIYEK. I could point out, we have a list at the end of our testimony which shows the discrepancies that have been corrected. That was after a full summer of dredging in our authorized 18-foot project. Yet, the channel entrance can be dredged to an average depth of only 14 to 15 feet, and that depth is maintained for only 2½ months. We feel the jetties extensions are the only thing.

Chairman HATFIELD. And you agree there could be a substantial reduction in the annual O. & M. once this jetty is complete?

Mr TERNIYEK. That is our firm belief, that the maintenance dredging will go down dramatically. We are going to have the dedication of our newly completed small hopper dredge a little later this spring and it should be very helpful in maintaining these ports along the coast.

Chairman HATFIELD. Thank you very much. You have been very helpful and I appreciate your summary of your comments.

PREPARED STATEMENT OF SENATOR ROBERT PACKWOOD

Before I call on the Rogue Basin group, I would like to make part of the record the statement of my colleague, Senator Packwood. He sends his regrets that he was unable to be here, but wants you to know of his support for these Oregon projects.

Without objection, his statement will be included in the record at this point.

[The statement follows:]

STATEMENT OF SENATOR BOB PACKWOOD

Mr. Chairman, I appreciate the opportunity to submit the following testimony before your distinguished Committee. As you are aware, Mr. Chairman, Oregon's costal ports are an integral part of and essential to, not only the coastal economy, but to the entire state of Oregon. I would like to offer my support for the following Oregon projects, each having already requested funding before your Committee.

Nehalem River Entrance Jetties

The entrance jetties to the Nehalem River have deteriorated over the past forty years. These jetties are essential to maintain the continued viability of the Port of Nehalem. The Administration has included $7,100,000 in the President's fiscal 1982 budget recommendations to Congress to complete the total estimated funding for rehabilitation of the jetties.

Mr. Chairman, I respectfully request that the sum of $7,100,000 be appropriated to allow rehabilitation of the jetties.

Port of Sinuslaw

For many years the Port of Siuslaw has been attempting to correct serious problems relating to its jetty system at the mouth of the Siuslaw River. Advance engineering and design of the authorized jetty extension to correct the problem is underway by the Corps of Engineers. The President's budget recommendations include $100,000 to permit the Corps of Engineers to complete planning of the authorized modification of the jetties. The Port of Siuslaw has also requested that $7.9 million be appropriated to initiate construction of this project. There is little question regarding the necessity of modifying the jetties. Additional delay will only result in increased costs due to inflation and the continued need for appropriations of Operation and Maintenance funds to provide maintenance dredging pending the project's completion. Finally, I support the Port's request for $231,000 in Operation and Maintenance funds to provide for dredging necessary to reduce hazards to navigation that now exist in the channel.

Mr. Chairman, I respectfully request that the sum of $100,000 be appropriated to permit the Corps of Engineers to complete planning of the authorized modification of the Siuslaw River Navigation Project, that $7.9 million be appropriated to initiate construction of the authorized modification, and that $231,000 be appropriated to provide for additional dredging to reduce hazards now existing in the channel.

Port of Umpqua

As I'm sure you're aware, Mr. Chairman, funds voted by your Committee have allowed rehabilitation of the north jetty and expansion of the training jetty at the mouth of the Umpqua River. The extended training jetty, completed last October, has resulted in a substantial scouring of the river channel immediately alongside the jetty. This is the result that was hoped for and it is expected the channel will continue to widen during the next winter season. There is, however, an interim problem which has resulted in a hazard to boats crossing the bar. Adjacent to the newly scoured channel is a shoaled area, referred to as the "middle grounds". This area causes breakers as waves come across it. As the waves carry across the newly scoured channel and strike the training jetty, they are reflected back into the channel, clashing with incoming waves. This hazard could be lessened by removing the shoaled area and allowing a channel to the 200 foot project width. To accomplish this, I support the Umpqua's request that $330,000 be added to the $1,001,000 already included in the President's 1982 budget recommendations for Operations and Maintenance for the Port of Umpqua.

Mr. Chairman, I respectfully request the sum of $330,000 be added to the $1,001,000 already included in the President's 1982 budget recommendations and that the entire amount be appropriated to allow the dredging of the area known as the "middle grounds".

Port of Gold Beach

The Port of Gold Beach, located at the mouth of the Rogue River, has been landlocked for almost one half of each of the past three years. The present jetty system is obviously inadequate. The Corps of Engineers is conducting a model investigation of the Rogue River navigation project at the Waterways Experiment Station at Vicksburg, Mississippi. This is in an effort to complete the Corp's overall General Investigation report which started in 1966. The present jetty system allows sand to infill the navigation channel causing shoals to form. This results in extremely hazardous bar conditions. The Corps of Engineers' study, hopefully, will provide a solution to this problem. It is essential that the $100,000 necessary to complete the Corps' study be appropriated. In addition, I support the Port of Gold Beach's request that $492,000 for additional maintenance dredging be added to the $804,000 already recommended in the President's budget for Operations and Maintenance, making a total appropriation of $1,296,000. This is necessary to alleviate the dangerous shoaling problem resulting from the existing jetty system.

Mr. Chairman, I respectfully request that the sum of $100,000 be appropriated to complete a model investigation of the Rogue River navigation project by the Corps of Engineers, and that $492,000 be added to the President's recommendation of $804,000 for Operations and Maintenance in the 1982 budget.

Port of Brookings

The present jetty system at the mouth of the Chetco River is insufficient to prevent dangerous shoaling in the navigation channel. A Chief of Engineer's report approving a 750 foot extension of the north jetty and a 1,250 foot extension of the south jetty is now before Congress for authorization. By extending the jetties further into the ocean and making them of even length, much of the shoaling will be eliminated thereby reducing the need for annual maintenance dredging. In the interim, however, the Port of Brookings, which has responsibility over the harbor entrance, has requested that $158,000 be added to the $422,000 already included in the 1982 budget recommendations. I support this request.

Mr. Chairman, I respectfully request that the sum of $158,000 be added to the $422,000 recommended by the President's 1982 budget and the total amount of $580,000 be appropriated.

Again, Mr. Chairman, I appreciate the Committee's consideration of these projects.

ROGUE RIVER BASIN FLOOD CONTROL PROJECTS

STATEMENT OF GERALD T. LATHAM, CHAIRMAN, ROGUE BASIN FLOOD CONTROL AND WATER RESOURCES ASSOCIATION

ACCOMPANIED BY:

DENNIS N. HOFFBUHR, TREASURER

ANNE BASKER, DIRECTOR

LENN L. HANNON, STATE SENATOR FROM 26TH DISTRICT OF OREGON

Chairman HATFIELD. Now, I would like to invite Mr. Gerald Latham, chairman of the Rogue Basin Flood Control and Water Resources Association to come forward. I believe you have some folks accompanying you—Mr. Dennis Hoffbuhr, Miss Basker, and Mr. Lenn L. Hannon.

Mr. LATHAM. Thank you. We appreciate all the favors you have helped us with. We have three major items on the budget this fiscal 1982. One is the Applegate Reservoir, $3.5 million, which is essentially complete. We also have the Grants Pass Irrigation District project of the Water and Power Resources Services which needs $100,000, will complete that project. We have the Medford division study which is looking at irrigation potential— $65,000 is needed on that.

ELK CREEK LAKE PROJECT

And then we have requested $4.5 million for the Elk Creek Dam. In 1975, as you know, the construction was halted after spending $8,964,000, basically because of turbidity and water quality problems. Those things have been resolved and we feel it is time we finished the project.

We have State Senator Lenn Hannon here. We bring a message from the Governor.

Mr. HANNON. Thank you, Mr. Chairman. I am a State senator representing Jackson and Klamath Counties. I bring you greetings on behalf of Governor Atiyeh and the other constituents within the State of Oregon. We want to thank you for your past support, hard work and efforts in the area of water projects and, again, I am here representing the working people of Rogue basin water control project. We are concerned about the economic impact of our dollars. Right now, as you are acutely aware, we are facing an unemployment level approaching 20 percent. This is an added benefit that we can desperately use not only for storage of water in the low water years, but also encourage new employment.

If there is anything I can respond to, I will be happy to. Again, we want to indicate to you our strong support for this project and thank you for your efforts.

Chairman HATFIELD. Thank you. We appreciate your comments.

Mr. LATHAM. Senator Hannon has some information recently released that we would like to put in the record dealing with the economic benefit amounting to $12.7 million benefit the irrigation district completed.

We will try to answer any questions you may have.

[The statement follows:]

Statement of G. T. (Jerry) Latham, Chairman, Rogue Basin Flood Control and Water Resources Association

We thank you for the opportunity to appear before this committee in support of funds for the Rogue River Basin Projects in Oregon for fiscal year 1982.

BUDGETED:

	F.Y. 82
Corps of Engineers:	
Applegate Project	$3,500,000
Water and Power Resources Service:	
Grants Pass Irrigation District and Savage Rapids Dam and Fish Screen Project Completion	100,000
Medford Division Study	65,000

UNBUDGETED:

Corps of Engineers:	
Elk Creek Project	4,500,000

The Congressional authorization in 1962 under PL 87-874 provided three multi-purpose flood control dams.

LOST CREEK on the main stem of the Rogue River was put into operation in February, 1977. Water quality, streamflow enhancement and hydroelectric production have substantially exceeded the benefit objectives.

APPLEGATE Reservoir started filling in December, 1980, and because of a low snow pack this winter, there will be a major improvement in the streamflow this summer caused by water which has been stored in Applegate Reservoir.

The Rogue Basin Association, in cooperation with the Corps of Engineers, has scheduled a dedication of the project May 27, 1981. We extend a most cordial invitation to each of you, should you find it possible to attend.

ELK CREEK funding to date has been $8,964,000 which includes all land purchased, road re-location around the dam, some gravel stockpiled for the dam and prior call for bids on the dam.

The Oregon Water Policy Review Board withdrew support from the Elk Creek Project largely because of concern about its effect on clarity of the Rogue River. The

State of Oregon expressed the opinion that Elk Creek should be deferred until Lost Creek, which was nearing completion, had an operating record in the area of water clarity. Lost Creek is now in its fifth year of operation, and the quality of the water has been excellent.

The Elk Creek Lake supplemental No. 1 Environmental Impact Statement was issued by the Corps in December, 1980. The State Water Policy Review Board has scheduled a public hearing on the project at Grants Pass, April 3, 1981, which should lay to rest the turbidity and water quality problems as set forth in the statement.

The Water Policy Review Board will convene on April 4, 1981 for a decision on the project.

Governor Victor Atiyeh, since taking office in 1979, in letters to our organization and our Congressional delegation, has strongly supported the Rogue Basin Project.

As the result of the destructive flood in December, 1955, the control of major floods in the Rogue Basin has been the primary objective of our association.

We have appeared annually before the Appropriation Subcommittee since 1962 for funding of the approved multi-purpose project. The Basin Project is approximately 70% complete, and with your favorable consideration for completing the Elk Creek Project, our objective will be achieved for maximizing the water resources in the Rogue Basin.

Rogue River Project Pertinent Data

Feature	Unit	Lost Creek	Elk Creek	Applegate
Stream		Rogue River	Elk Creek	Applegate River
County, State		Jackson, Oregon	Jackson, Oregon	Jackson, Oregon
Dam location		Sec 26, 27 & 34 T33S, R1E, WM	Sec 19, 20, 29 & 30 T33S, R1E, WM	Sec 25 T40S, R4W, WM
River mile above mouth	mile	153.6	1.7	45.7
Drainage area	sq mi	674	132	223
Airline distance from Medford	mile	26 north	26.5 north	23.0 southwest
Airline distance from Portland	mile	205 south	205 south	255 south
Usable storage	acre-feet	315,000	95,000	75,000
Inactive storage	acre-feet	120,000	5,750	6,990
Dead storage	acre-feet	30,000	250	10
Total storage	acre-feet	465,000	101,000	82,000
Elevation-maximum (full) pool	feet, msl	1,872	1,726	1,987
Elevation-minimum flood control pool	feet, msl	1,812	1,665	1,889
Elevation-minimum conservation pool	feet, msl	1,751	1,581	1,854
Area - maximum pool	acre	3,430	1,290	988
Area - maximum flood control pool	acre	2,580	710	360
Area - minimum conservation pool	acre	1,820	200	205
Length - reservoir	mile	10	6.2	4.6
Elevation - top of dam	feet, msl	1,882	1,733	1,994
Length of dam	feet	3,750	2,685	1,300
Maximum height-riverbed to top of dam	feet	327	233	242
Embankment volume	cu yds	10,800,000	4,300,000	3,000,000
Concrete volume	cu yds	110,000	63,000	86,000
Spillway control gates (Tainter)	number	3	2	2
Spillway design discharge	c.f.s.	158,000	57,900	93,800
Outlet works		Multiple-use Intake Tower, Outlet Tunnel, Flip Bucket	Multiple-use Intake Tower, Cut & Cover Outlet Conduit, Flip Bucket	Multiple-use Intake Tower, Cut & Cover Outlet Conduit, Flip Bucket
Outlet capacity at maximum & full pool	c.f.s.	11,500	6,000	6,100
Outlet slide gates (oper & emerg) number	(sets)	2	2	2
Outlet temperature control (various elevations)		Multiple level intake	Multiple level intake	Multiple level intake
Power	kW	49,000	None	None
Project cost (estimate)		$157,000,000	$108,000,000	$95,500,000
Cost to Date (30 Sep. 1980)		$134,493,000	$8,964,000	$81,778,000

TIMBER INDUSTRY OPPOSITION

Chairman HATFIELD. Let me ask your opinion as to why there seems to be a general lack of support among the timber industry in the area of Elk Creek project.

Ms. BASKER. Thank you for the opportunity to respond to the question. I think you will find that the opposition that you indicate from the timber industry is, in effect, one large company which has holdings in the area that would be affected by the construction of the dam, that is the Boise Cascade Corp.

I attended a meeting a week ago this morning in Grants Pass of the timber committee, which the southern association was instructed by members from Josephine against any further delaying of the project. As you know, it is a great concern to Josephine residents that this project come into place. We are the ones who would best benefit from flood control and other areas are going to be impacted.

That is the concern that we have which is shared by the members of the timber industry in Josephine County. I think you will find it is one company rather than the entire Nation.

Chairman HATFIELD. Do you have any idea as to when the Water Resources Board will review it?

Ms. BASKER. We have the exact date, meeting in Grants Pass, April 3 from 1:30 until dinner time and all the rest of the evening and a decision on April 4.

Chairman HATFIELD. Would you like to make a prediction as to what will happen as a result of that meeting in reference to the Elk Creek?

Ms. BASKER. I won't make a prediction. I will say a prayer.

Chairman HATFIELD. Thank you very much. We are happy to have you here.

I am going to turn over the gavel to Senator Stennis who will preside. I am very sorry that I had this happen to my schedule.

Mr. Keith Jensen, Oregon Environmental Council, I want to welcome you here. I am sorry that I am not able to remain but I will read your testimony carefully.

I wonder, Mr. Chairman, if we can complete the Oregon group by having Mr. Jensen testify.

Senator Armstrong, would you care to introduce your Colorado witnesses.

STATEMENT OF HON. WILLIAM ARMSTRONG, U.S. SENATOR FROM COLORADO

Senator ARMSTRONG. I do have exactly the same problem. If I could have 1 minute, I would like to welcome our guests from Colorado. If I may, I would like to submit for the record a statement which I have prepared that bears, in part, on the matters which I think the Colorado witnesses will state.

Senator STENNIS [presiding]. You can proceed in your own good way.

Senator ARMSTRONG. In addition to submitting a brief written statement, I would like to add a word to put into perspective the merit and need of the projects located within the State of Colorado that were discussed in my written testimony and will be discussed at greater length by some of the people from our State who are truly authorities on the subject, particularly Fred Kroeger who is here with a distinguished delegation for the Animas-La Plata project, Gary Friehauf, who is here on behalf of the Lower South Platte Water Conservancy District; Bill McDonald, director of the Colorado Water Conservation Board, who will be speaking from the State's perspective; and Mr. Paul Billhymer, executive director, Upper Colorado River Commission.

These men are truly experts and are in a position to share with the committee in great detail the need, justice, merit, and justification for these important projects.

I want to add this word. This is the year in which a national administration is calling for restraint in Federal spending. As the chairman will recall, restraining Federal expenditures has been one of the primary themes of my own advocacy during the time I have been in the Senate and before that in the House of Representatives. I would be less than true to my own beliefs if I did not share with the committee my concern that every aspect of Federal spending must be subjected to Federal scrutiny if we are to get our budget into balance and thereby control the budget. I believe they are worthy and meritorious. I am prepared to support the administration and its request to defer new starts for the time being. I expect that will be the action of the committee and of the Congress.

FEDERAL INVESTMENT IN WATER RESOURCE DEVELOPMENT

But, what does stick in my craw, if I may say so, is the belief that seems to spring up in some quarters that somehow these Western water projects are some kind of pork barrel or subsidy or are something other than an investment in the future of America.

In my statement I discussed this at some length, and I want to repeat the observation that to compare Western water projects, in which we have invested some $10 billion in the last 80 years, with some of the wasteful programs in the budget is odious.

I will give you one example: the Metro subway. We have committed to spend almost as much on building a subway system right here as we have committed to all the Western water projects in nearly a century. The Western water projects have not only paid their way back, but I will point out that, based on expenditures, they have contributed back to our economy three times that much in tax revenues. In 1978 alone, Western reclamation projects generated $8.5 billion in private income, $1.1 billion in State and local taxes, and $2.2 billion in Federal taxes for a total economic production of $13.5 billion in that 1 year alone. That is more than we have invested in 80 years in Western water projects.

You compare that with Metro that can't even pay back the operating investment. The reason I point that out is this. I do not expect that we are going to have new starts. We probably won't have any, and I am prepared to abide by that, if that is the decision of this committee and the Senate. But when the time comes, I think we ought to be realistic about what we are doing and we ought to look at some of these projects that are, in fact, highly questionable as to their economic merit and compare them to an investment in the future of this country—in agriculture, in job-creating activities, and in conservation of our resources of land and water.

Mr. Chairman, with that word of explanation, I would submit my statement for the record, and I apologize to the witnesses, with whom I met earlier in the day, because I am unable to stay and hear their testimony, but I have been summoned to a meeting that I must attend.

Senator STENNIS. I am delighted that you could be here for these few minutes and that you made the remarks you did and what you are going to put in the record. You are welcomed to be heard any time. You advocate things that are sound.

So, you don't have to have any special explanation to justify these matters to me. I wish that everything you said would be on the evening news, televised throughout America so the people would have a chance to learn more about the real facts.

Senator ARMSTRONG. I appreciate that very much.

Senator STENNIS. These water projects are the most valuable, most constructive in outlook, and they contribute more to our economy than anything else I have found in the last quarter of a century.

Senator ARMSTRONG. I believe that is true and I am terribly grateful for your help in these projects.

[The statement follows:]

STATEMENT OF SENATOR WILLIAM ARMSTRONG

Mr. Chairman, I thank the members of the Subcommittee on Energy and Water Development for this opportunity to speak on the question of funding for water conservation and storage projects.

As a member of other committees that are considering various aspects of the President's economic package, I think I have much the same attitude that members of this Subcommittee and of the Appropriations Committee have on issues relating to spending. Our duty and our firm intention is to reduce, wherever possible, the unprecedented levels of federal funding. We must eliminate those programs that have been tried and have failed. We must change and improve those programs that work but are inefficient. We must scale down those programs which have grown beyond their intended function. We must eliminate all the wasted expenditure we can find, wherever we may find it.

The President has carefully reviewed the economy his administration inherited and he has arrived at the conclusion, which I think is quite right, that forceful corrective action must be taken if we are to start patching the holes in our economic lifeboat. Some members of Congress still do not believe that fiscal restraint is necessary and would prefer to go on spending as if there were no tomorrow. But Mr. Chairman, I for one think there is a tomorrow -- we've arrived there and owe it to ourselves and to the country to put our economy back on a solid footing. That is the task which has been set for us by the American people, and that is the important national purpose set before this Subcommittee and the Appropriations Committee as a whole; I would just like to say from the outset that I strongly support the President and the members of the Committee in this critical effort.

I am aware, Mr. Chairman, that various Administration officials have testified to the committee that no new water project starts are expected to be proposed until Fiscal Year 1983 at the earliest. Some proponents of water conservation and storage are disappointed by this position; others are philosophical about the delay and figure that if they could outlast the four-year drought of the previous Administration, then they can wait one more year. After all, the previous Administration was incapable of either balancing the budget or starting water projects while the present Administration is determined to do both. I believe they will do both.

I would like to take a moment to make a few general observations about federal investment in water conservation and storage. I use the term "investment" advisedly, Mr. Chairman, because when the federal government puts money into reclamation projects, it is investing in the country's future. Water is a critical component in agriculture, recreation, municipal and industrial growth, transportation, and energy resource development. The theory that water projects are pork barrel politics-as-usual is nothing but a tired political saw that we hear every year at this time.

Western reclamation projects, with which I am more familiar, have already returned more money to the federal treasury than they have taken out, and most of these will go on paying for decades. Since passage of the Reclamation Act of 1902, less than $10 bilion has been appropriated for these projects; in only 38 years of that period, from 1940 to 1978, they generated $25.6 billion in tax revenues. In 1978 alone, western reclamation projects generated $8.5 billion in private income, $1.7 billion in corporate profits, $1.1 billion in state and local taxes, and $2.2 billion in federal taxes -- for a total economic production of $13.5 billion. All this in addition to the long term repayment schedule for the initial investment in construction funding.

In 1978, the 9.6 million acres on 151,000 farms irrigated by water from reclamation projects produced 54.3 million tons of food, fiber and forage; this is enough to meet the annual food requirements of 34.1 million people and has a gross crop value of nearly $5 billion, one-fifth of which was exported and thus improved our balance of payments. Barren waste land has been transformed into some of the richest, most productive farm land in the world, producing a major proportion of some of America's most important cash crops. The return on the agricultural portion alone makes reclamation projects an attractive investment. From 1906 to 1978 a total gross crop value from lands irrigated by water from these projects was in excess of $63 billion. Add to that the incalculable benefits which have accrued and will continue to accrue from the other aspects of water development -- municipal and industrial uses, flood control, recreation and renewable hydroelectric power -- and you begin to get an idea what this kind of investment is worth.

The $10 billion that has been appropriated for western reclamation projects over a period of 80 years, Mr.Chairman, has created a productive giant that not only pays back the initial investment with interest, but also generates untold billions of dollars in profits and tax revenues. Compare this with the $10 billion that is to be spent in just 20 years to build the Washington subway system and then we can talk about cost-effective spending.

For these reasons we have got to invest in more water conservation and storage. There are many projects that have completed the planning phase and are ready to go to construction. In my own state of Colorado, for example, there are two projects that are ready to begin construction: the Narrows and Animas-La Plata. Proponents of both projects are here to testify this afternoon and will explain what their respective needs are and how these needs may best be met. I support both of these projects and urge you to listen to their sponsors with a mind that is open to the prosperity and enormous benefits they will provide. You will also hear from Mr. Paul Billhymer, Executive Director of the Upper Colorado River Commission, and Mr. Bill McDonald, Director of the Colorado Water Conservation Board; I commend the testimony of both to the Subcommittee and am confident that, after listening to them, you will have a clearer idea of the special problems and needs of the Upper Basin in general and of the State of Colorado in particular.

Other projects around the country are also ready to go to construction. Many of these have been on the back burner for years, waiting only for an Administration that understands the critical importance of water development. I know that this Administration understands how important this resource is and has committed itself to funding new project starts at the earliest possible date. I applaud and support this commitment.

Mr. Chairman, the last four years were dry ones and indeed for those who understand and favor the cause of water resource management. There are many, many ways that this Administration can improve upon that of its predecessor. Increased project funding and new starts would only be two such ways. Other improvements do not necessarily involve appropriations, so they are outside the scope of this Subcommittee. But I would just like to mention a few, if I may, to show how this Administration's water policy may improve upon that of the last four years.

Consider a few examples. A water conservancy district in Grand Junction, Colorado had a municipal reservoir which, when filled, would back up on a small portion of BLM land. BLM was willing to allow the inundation of this land, but only under conditions that the water district found unacceptable for health reasons. As a consequence, the reservoir went unfilled for years. This year, however, BLM reversed its earlier decision and granted the necessary rights-of-way without condition...and the reservoir is now storing the much needed water.

Another specific case is the Windy Gap project in northcentral Colorado. The U.S. Fish and Wildlife Service was preparing to issue a finding that this privately financed project would jeopardize two endangered fish species in the Colorado River. After discussions this year with the Department of Interior, a compromise was reached that both allows the project to proceed to construction and enhances the fish habitats as well.

In Gunnison County, Colorado, the Army Corps of Engineers planned to designate irrigated agricultural lands as "wetlands" and thus subject this farmland to the bureaucratic nightmare that the Section 404 permit system has become. However, Corps officials were recently persuaded that such a designation borders on the irrational and have agreed to reconsider the action.

I think these cases indicate that this Administration wants to be a partner, rather than an opponent, of water resource development. This break from the obstructionist policies of the previous Administration is most welcome, for this is an area that is desperately in need of some regulatory relief.

Congress, too, must contribute to this change of policy. Section 404 of the Clean Water Act should be amended to redefine "navigability" and to reduce its emphasis on the effects of diversion, storage or the consumption of water. The 160-acre limitation and other senseless restrictions in the Reclamation Act of 1902 must be revised or eliminated. Balance should be restored to the environmental review process so that the National Environmental Policy Act, the Endangered Species Act, the Wild and Scenic Rivers Act and the Clean Water Act can no longer be used to cause paralysis by analysis.

In all these ways, Mr. Chairman, in addition to continued funding and possible new starts, I believe that we can all work together toward a common goal -- improved management of our precious water resources. The expected nationwide shortage of water this year will make plain to the entire country what we in the West have always known: we have waited too long to increase development and use of the water resources this country has been blessed with.

STATEMENT OF HON. ORRIN G. HATCH, U.S. SENATOR FROM UTAH

Senator STENNIS. Senator Hatch, do you wish to make a statement now?

Senator HATCH. I do, Mr. Chairman. I appreciate your extending me this courtesy. It is with a great deal of pleasure and pride that I present Mr. Roscoe Garrett and Mr. Lawrence Siddoway of the fine State of Utah. They are here to deliver testimony in support of the Central Utah Project and the support also of the administration's fiscal program. I chose that statement very carefully so I can express, for the record, how specifically proud I am to represent a constituency which understands and believes in the necessity of budget restraint at this time, even though the cuts will be directly painful to their own interest.

I would like to emphasize that their support was for the fiscal program, not just the budget cuts. Item 3 of the President's three-part program is the commitment to regulatory reform. I can think of a few instances where in the dollar cost of unnecessary and unknown cyclical Federal procedures are most obvious and destructive than in the planning, construction, and operation of water developments.

The aspect of the statements we are going to present today by these two fine gentlemen I want to associate myself with. And I think their statements will clearly illustrate that even severe budget cuts are tolerable if we can stop goldplating these projects and get them constructed.

I am convinced that the same relationship and the same opportunities exist throughout the economy.

Our problem has been that we have so little funding through the years that this project has escalated and we would like to be able to cut through the regulatory redtape and get the necessary funding to finish this project so that, literally, it can serve the people in my home State in the very best possible way.

I might mention in that regard that it is crucial to us. Water is our life's blood in Utah, being the second driest State in this Nation. This project has been believed in and worked for and fought for and relied upon for better than 22 years.

So, I appreciate, Mr. Chairman, you and your interest in the West and your interest in our problems, and I want these two fine gentlemen to be able to appear before your committee and state their statements as well.

Senator STENNIS. Thank you, Senator. We are fortunate to have you here to present this statement. It fits in with the need and with the facts of life. The people in the West know how to conserve water and how to take care of it and how to make it go further. These projects pay off to the economy, the Nation, the Treasury, and to the income tax. We will give special attention to your project. Thank you for coming over.

Senator Hatfield is the new chairman of this subcommittee and of the entire Appropriations Committee. We couldn't have a better and more qualified chairman—qualified in character and integrity and qualified by experience and the desire to be constructive. We are very pleased to work with him and trust his judgment. He had a strong call to duty in this other matter that came up at 2 o'clock, otherwise he would be right here with you. I am sure you understand.

Mr. Keith Jensen, would you proceed.

ELK CREEK DAM—OPPOSITION

STATEMENT OF KEITH JENSEN, OREGON ENVIRONMENTAL COUNCIL

Mr. JENSEN. Thank you for recognizing me, Mr. Chairman. I appreciate this chance to speak before the committee.

Senator STENNIS. We are glad to hear you. We don't want to cut anyone timewise, but in deference to all the others, we do have to distribute the available time.

Mr. JENSEN. I have submitted my testimony and it will speak for itself. I would like to make a couple of points.

Senator STENNIS. Of course.

Mr. JENSEN. My interest is in the Elk Creek Dam. I think it is preposterous to ask that Elk Creek Dam be built in these times of fiscal responsibility. As the people from the coast, they could better put the money to use through their dredging project. The two dams that have been built for the Rogue basin are doing a very good job of flood control, The question that was brought up by the previous group question as being solved has not been solved to the satisfaction of the Environmental Protection Agency or the Fish and Wildlife Service. Therefore, I think that any further funding for Elk Creek Dam will be a mistake. They should sell the gravel, sell the land back to the timber companies, and go on about the business and call the project finished.

I want to thank you very much for letting me testify on their behalf.

Senator STENNIS. Thank you for your interest and attendance here today.

[The statement follows:]

STATEMENT OF KEITH R. JENSEN, OREGON ENVIRONMENTAL COUNCIL

I thank you for the opportunity to appear before this committee in opposition to any further funding for the Elk Creek Lake Project on Elk Creek in the Rogue River Basin, Oregon.

Portions of the Rogue River have been designated as a National Wild and Scenic River. The Rogue River, its whitewater and its sports and commercial fishery are known and highly valued nationwide.

At this time nearly nine million dollars, of a total project cost of one hundred and eight million dollars, has been invested in this project, of that a portion is land acquired and gravel stockpiled, which can be sold.

In terms of fiscal responsibility, any further spending on this project would be irresponsible as it is widely opposed by the citizens of Oregon and public agencies.

Please note that the benefit-cost ratio for the project is 1.14 to one, when considered as a portion of the total system benefits for the three Rogue River Basin projects, using an interest rate of 3.25 percent on the borrowed funds.[1]

However, when the project is decided on its own merits the benefit-cost ratio is 0.8 to 1.0 at 3.25 percent and 0.32 to 1.0 at a more realistic 7.12 percent rate.[2]

While adding hydropower facilities is possible the Corps own economic analysis of the proposed five megawatt facility shows an incremental power benefit-cost ratio of 0.53 to 1.0.[3]

On the subject of irrigation benefits, the Water and Power Resources Service, formerly the Bureau of Reclamation, has been on record since 1975 stating that the possible irrigation project associated with the Elk Creek project is not economically feasible.[4]

Furthermore, the Corps has stated that the operation of Lost Creek and Applegate Dams, already constructed as part of the system, can provide the needed benefits:

> "... all evidence indicates that Lost Creek Lake has sufficient capability to allow efficient management of the resources of the upper Rogue Basin. Adequate basis has not been found which will support the incremental justification of Elk Creek Project."[5]

The timberlands submerged and those managed as visual resources surrounding the lake will effectively lower the resource base in the area and will have a permanent negative effect upon the economy of the area. Consider this statement:

> "Because the true economic impacts of the Project have not been realistically asessed, because important environmental questions remain unanswered and because the document discussing the Project's impacts is inadequate, Boise Cascade Corporation recommends that the Elk Creek Dam not be built."[6]

As this project is primarily for flood control, consider the nonstructural alternatives to the project. The National Floodplain Insurance plan and local land use zoning to prevent floodplain development are participated in by all counties and cities involved at a cost far short of one hundred and eight million dollars.[7]

The Environmental Protection Agency has made clear its opinion on the water quality problems.

> "It appears that violations of the Federally approved State of Oregon water quality standards will occur. These water quality standards were developed to protect the downstream uses of the Rogue River for many beneficial uses including fisheries, water supply and aesthetics, and are useful guidelines to gauge the acceptability of impacts."[8]

Elk Creek Dam, if built, will destroy the salmon and steelhead runs in Elk Creek. Upwards of 4500 fish return to spawn in Elk Creek each year, with the number of smolts produced about one hundred times that amount.[9] This could have an adverse affect on the sport and commercial fisheries of the area.

In wrapping up I would like to point out that the Southern Oregon Timber Industries Association "... cannot support the Elk Creek project..."[10], the Jackson County Board of County Commissioners is "...unilaterally opposed to the project"[11] and the State of Oregon Water Policy Review Board's final comment is:

> "... it seems not at all certain that the net impact of the project in the long term would be positive, considering the uncertainty of benefits and the probable damage to the fishery resource, curtailment of timber harvest in the watershed, and diminished downstream recreational benefits."[12]

I wish to thank you once again for your generous consideration.

FOOTNOTES

1. Elk Creek Lake, Final Environment Impact Statement Supplement No. 1, December 1980, U.S. Army Engineer District, Portland, Corps of Engineers, referred to as FEISS, pg. 3
2. FEISS, pg. C-5
3. Unpublished Elk Creek Lake Economic Analysis requested by Office, Chief of Engineers, January 12, 1978, referred to as ECLEA, pg. 8
4. ECLEA, pg. 6
5. ECLEA, pg. 10
6. Comments on Draft Environmental Impact Statement Supplement No.1, April 24, 1980 (FEISS pg. 144)
7. ECLEA pg. 5
8. U.S. Environmental Protection Agency, Region X, letter to Corps of Engineers, January 19, 1981, pg. 1
9. FEISS pg. 35
10. Comments on Draft EIS Supplement No. 1, April 11, 1980, (FEISS pg. 91)
11. Phone discussion with Don Schofield, Commissioner, Jackson County, March 24, 1981 with Elizabeth Frenkel.
12. Water Policy Review Board, Rationale, Majority Decision, October 1975, pg. 11

CENTRAL UTAH PROJECT

STATEMENT OF ROSCOE GARRETT, PRESIDENT, CENTRAL UTAH WATER CONSERVANCY DISTRICT

Senator STENNIS. Next on the list is Mr. Lynn Ludlow, secretary-manager of the Central Utah Water Conservancy District.

Mr. LUDLOW. The two gentlemen that were introduced by Senator Hatch will be making the statement for the conservancy, Mr. Garrett and Mr. Siddoway.

Mr. GARRETT. I am R. Roscoe Garrett, president of the Central Utah Water Conservancy District. In the interest of time, I would like to call your attention to the fact that district encompasses 80 percent of the population in the State of Utah. It includes 12 counties and a representative to fill their water requirements.

It is a privilege to be here with you today. We would like to go on record as supporting the President's recommendation, the resolution supports that funding recommended by the President of the United States to the fiscal 1982 budget to the Congress of the United States.

FUNDING REQUEST

Included in his budget were the following funds for the Central Utah Project which I would like to read to you. On the Bonneville unit, $66.7 million for construction; the Jensen unit, $8,752,000 for construction; Upalco unit, $1,246,000 for construction; Uintah unit, $500,000, advance planning; and section 8 funds, $7,554, we leave for the benefit of all the State.

The Central Utah Project has for years been considered a vital water project for the State of Utah. It has been accepted as a segment of the State of Utah water plan. Since 1945, investigations conducted by the Bureau of Reclamation on this project have been supported and coordinated with the State of Utah. It was authorized by the Congress of the United States as a participating project of the Colorado River Storage Project Act of 1956.

I would like to call your attention that after 25 years, since 1956, some portions of this project are still being investigated and studied.

In the case of the Bonneville unit, it has been under construction for 16 years and portions of it are still being restudied. If there was ever a case of "paralysis by analysis," this is it.

We would like to plead with you to speed up construction. Over the past few years the district has entered into agreements with Federal and local agencies to help us in environmental impact.

I think, Mr. Chairman, that that will complete our statement.

Senator STENNIS. Now we come to our friend, Mr. Siddoway. Without objection, your entire statement will be included in the record. Make it a summary.

Mr. SIDDOWAY. I am manager of the Uintah Water Conservancy District. We have lots of people coming into our area to develop these resources. We need to complete a project.

Mr. Chairman, in conclusion, I would like to tell Senator Garn that we certainly do appreciate his support in connection with these water projects, as well as Senator Hatch, and we are very happy to be here when they are here and when they have given us support to develop our water resources. Thank you.

[The statements follow:]

STATEMENT OF R. ROSCOE GARRETT, PRESIDENT, CENTRAL UTAH WATER CONSERVANCY DISTRICT

I am, R. Roscoe Garrett, President of the Central Utah Water Conservancy District. This District, which encompasses close to 80 percent of the population in the State of Utah, serves as a Legal Agency for 12 Utah Counties, to develop water resources to meet the water requirements of these counties'.

It is my privilege and honor to have this opportunity to appear before this committee in support of funding for the units of the Central Utah Project and to represent the citizens of this multi-county Water District.

One of the primary responsibilities that the District has undertaken is to sponsor Units of the Central Utah Project. For those of you who are not completely familiar with the Central Utah Project, it consists of a series of dams, pipelines, reservoirs, tunnels, aqueducts, and other facilities which will store, regulate and deliver water supplies to key areas of use within the Central Utah Water Conservancy District. It was planned and is being constructed by the Water & Power Resources Service which was formally the Bureau of Reclamation. Impacts of this project as it is constructed will be felt by every person and establishment in the State of Utah.

The District by the attached resolution supports the funding as recommended by the President of the United States in his Fiscal 1982 Budget to the Congress of the United States. Included in his Budget were the following funds for the Central Utah Project:

Unit	Amount	Purpose
Bonneville Unit	$66,700,000	Construction
Jensen Unit	8,752,000	Construction
Upalco Unit	1,246,000	Construction
Uintah Unit	500,000	Advance Planning
Section 8 Funds (Non-reimbursable)	7,554,000	All of Utah

The Central Utah Project has for years been considered a vital water project essential to meet the water requirements of the State of Utah. It has been accepted as a segment of the State of Utah Water Plan. Since 1945, investigations conducted by the Bureau of Reclamation on this project have been supported and coordinated with the State of Utah. It was authorized by the Congress of the United States as a Participating Project of the Colorado River Storage Project Act in 1956. After 25 years, since 1956, some portions of this project are still being investigated. In the case of the Bonneville Unit, it has been under construction for 16 years and portions of it are still being restudied. If there was ever a case of "Paralysis by Analysis", this is it.

The District, by ever increasing repayment obligations, has become more and more aware of the impact of inflation by delay. In our arrid, geographical area it is vital to pursue the development of our water resources. The tempo of the Bonneville Unit construction program over the past few years has been retarded by excessive time consuming procedures of preparing, reviewing and developing data to implement construction. In the future the District would like to encourage increased funding levels and an expedited, agressive construction program.

Several major impacts are facing the citizens within the State of Utah and paticularly within our 12 county District. These impacts are coming in the form of growth through fuel and energy development, military (MX) security, commercial and industrial development and resulting population increases. In cadence with these developments, the District, in addition to sponsoring Unit of the Central Utah Project, is developing those facilities essential to deliver project water to its citizens. The District has constructed two water treatment facilities and will have the third plant in service this year. It has made investments exceeding $30 million in these facilities, in anticipation of project water. These facilities are waiting to treat and deliver water to the populated areas within our District. They are presently only partially utilized and will continue to be so until the Central Utah Project is completed and water from this source is available. This point is emphasized to bring to your attention the investment made by the District, contemplating the Government's good faith in carrying through with the project that was initiated over 17 years ago. In addition, the District proposes to invest an additional $70,000,000 between now and 1990 to continue to provide facilities needed to make the project water useable.

Over the past few years, the District has entered into agreements with Federal and Local agencies to help lessen environmental impacts of the project on their particular areas of concern. The resulting agreements have been satisfactory to all agencies and have concluded in harmony.

In conclusion, the funds being requested for the Central Utah Project in this Appropriation Bill are necessary to keep the planning and construction programs moving. This water resource program, the most vital to the State of Utah, must receive sufficient funding and support to complete its construction at the earliest possible date.

Thank you.

RESOLUTION

WHEREAS, the President's Budget for Fiscal Year 1982 recommended to the Congress of the United States that the following funds be appropriated for the Central Utah Project:

Unit	Amount	Purpose
Bonneville Unit	$66,700,000	Construction
Jensen Unit	8,752,000	Construction
Upalco Unit	1,246,000	Construction
Uintah Unit	500,000	Advance Planning
Section 8 Funds,(Non-Reimbursable)	7,554,000	All of Utah

and,

WHEREAS, these funds are adequate to proceed with essential planning and construction on the units of the Central Utah Project, a more aggressive construction program is mandatory to meet the increasing District water requirements created by fuel and energy development, military security, commercial and industrial development, and resulting population increases, and

WHEREAS, the delayed construction program on the Central Utah Project has placed an unequal and unfair financial burden on the citizens of the District in meeting their water needs in the construction of the units of the Central Utah Project under the Colorado River Storage Project Act.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Central Utah Water Conservancy District does hereby support the funds as requested in the President's Budget for Fiscal Year 1982, and

BE IT FURTHER RESOLVED, that the Board of Directors feel that with past history of inadequate project funding, cuts are difficult to accept at any point in time, but are aware of the goals of this Administration, and

BE IT FURTHER RESOLVED, that the Board of Directors are looking forward to the President's future budget request and policy changes which will result in a more agressive construction program for the Central Utah Project, and

BE IT FURTHER RESOLVED, that copies of this resolution be transmitted to the President of the United States, Governor of Utah, Members of Utah's Congressional Delegation, the Secretary of the Interior, the Commissioner of the U. S. Water and Power Resources Service, and other interested entities.

CERTIFICATE

I certify that the foregoing is a true and accurate copy of a resolution unanimously adopted by the Board of Directors of the Central Utah Water Conservancy District on March 12, 1981.

STATEMENT OF L. Y. SIDDOWAY, MANAGER, UINTAH WATER CONSERVANCY DISTRICT

My name is L. Y. Siddoway. I am Manager of the Uintah Water Conservancy District whose office is located at Vernal, Utah. I am appearing here today at the direction of the Board of Directors of that Conservancy District. I, also, serve on the Board of Directors of the Central Utah Water Conservancy District representing the Uintah County Division.

I am appearing here to support the appropriations of funds for Central Utah Projects as detailed below. These amounts are also the amounts recommended to the Congress in the President's Budget:

Jensen Unit	$ 8,752,000
Uintah Unit - (Advance Planning)	500,000
Upalco Unit	1,246,000
Bonneville Unit	67,700,000
Recreation and Fish and Wildlife (Section 8)	7,554,000
TOTAL	$85,752,000

Jensen Unit - Central Utah Project

In 1980 the Congress appropriated $5,808,000 to begin construction of the Tyzack Pumping Plant and Aqueduct. Plans and specifications for this feature of the Jensen Unit have been issued by the U. S. Water and Power Resources Service. The bid opening will be held on April 28, 1981. The $8,752,000 for fiscal year 1982 will continue the construction of this very important feature.

The Red Fleet Dam has been completed and is operating under a "filling criteria." The reservoir was only partially filled in 1980, reaching 13,000 acre-feet; total capacity is 26,000 acre-feet. Under this "filling criteria" and if water is available in 1981, the reservoir should be filled to capacity. During 1980 the first irrigation water deliveries took place; deliveries were made to most of the irrigation contractors.

The Uintah Water Conservancy District has contracted to repay the repayable costs of the Jensen Unit and they have contracted with Vernal City for the delivery of 12,000 acre-feet of municipal and industrial water. The delivery to Vernal City will commence when the Tyzack Pumping Plant and Aqueduct is in place. The Vernal City system, which supplies water to Vernal City and surrounding areas in Ashley Valley, needs some of these water supplies today and future requirements for water could use the total M & I supply from the Project.

The 1980 census for Uintah County showed a 59.6 percent population increase from 1970 to 1980. Most of this increase in population is in the area of Vernal City and Ashley Valley. The cause of the increase in population is basically energy involved with oil and gas developments and oil and gas service people. The energy developments projected for this area include a new coal-fired power plant and oil shale and tar sand developments. The first unit of the Moon Lake Power Plant Project will start into construction in 1981. This is a coal-fired 400 megawatt unit which will come on line in late 1984. The second 400 megawatt unit would follow in construction in 18 months if the future power demands are present. This project is located 25 miles south of Vernal and Vernal will be the major residential area for the project. The Draft Environmental Statement was issued in January 1981 and the final Draft is expected to be filed by April 1st. The generating construction and the coal supply system will require an estimated peak work force of 1072 people in 1984. Other major developments include oil shale and tar sands. These planned developments are about 35-40 miles south of Vernal and include Paraho, Syntana, White River Oil Shale, Cleveland Cliffs, TOSCO, Magic Circle, Texaco, Exxon, and GeoKinetics. Attached is a map showing the location of these major energy areas of development in the Bonanza and Ouray areas south of Vernal. (This has been submitted by the Uintah Basin Planning and Energy Council.)

The Uintah Basin Planning and Energy Council projects work force for power plant, oil shale, and related projects at approximately 10,000 people in 1989.

The Central Utah Water Conservancy District is planning to construct a water purification plant along the Tyzack Aqueduct to treat water supplies from the Jensen Unit; also, water from the Vernal Unit and water from Ashley Springs. Treatment of these water supplies is required by the State of Utah to meet state and federal water quality standards.

Upalco and Uintah Units - Central Utah Project

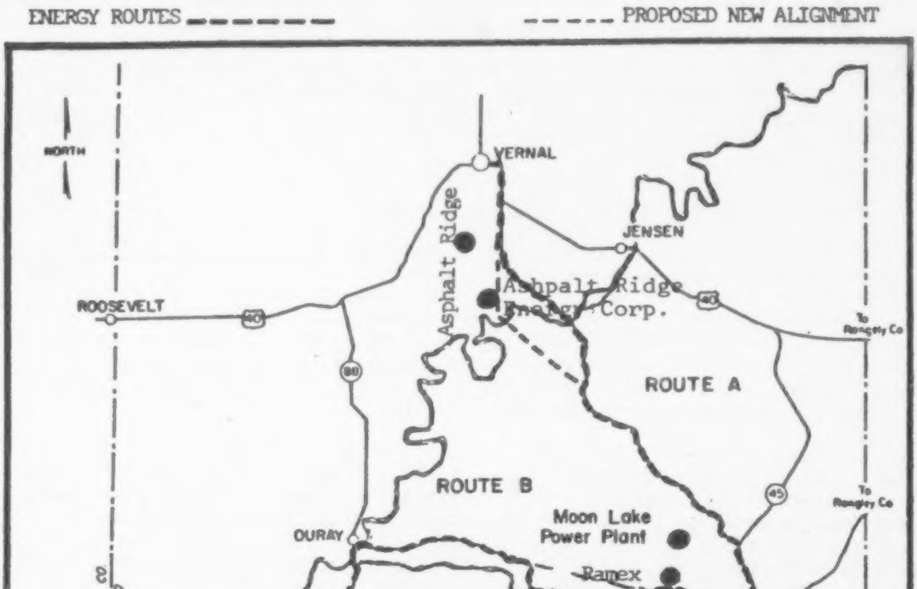
These two projects are extremely important to the people living in the Uintah Basin. Both projects will have benefits to both Indians from the Ute Indian Tribe and non-Indians residing in the same area. Construction funds were provided for the Upalco Unit in 1981 and a repayment contract has been negotiated with the Central Utah Water Conservancy District and should be signed in the immediate future. The Ute Indian Tribe is reviewing all of their options and hopefully they will be in a position to execute a contract allowing this project to proceed.

The 1982 Budget provides for $500,000 to continue investigation of the Uintah Unit of the Central Utah Project. This project was planned to provide storage features on both the Uintah and Whiterocks Rivers and both non-Indians and Indians would participate in the water supplies developed both for irrigation and for culinary use. All areas in the Uintah Basin have felt the impact of energy developments and this is important in providing water supplies to take care of the needs of the people in the basin. The impacts of oil shale, tar sands, power plant, and oil and gas development will be felt in Roosevelt, Duchesne, and Ballard as well as some section of western Colorado. At the present time oil and gas drilling operations are taking place in every section of the Uintah Basin. The Uintah Basin is an area with varied and enormous natural resources.

Bonneville Unit - Central Utah Project

Funds for 1980 fiscal year will be used to continue the construction of the Strawberry Collection System and the Upper Stillwater Dam in the Uintah Basin. Also, funds will be available for construction of the Jordan and Alpine Aqueducts in the Bonneville Basin. Funding will allow for continued investigation of the Jordanelle Dam, a key feature of the Bonneville Unit, a project that will supply M & I water to Salt Lake and Utah Counties. It is essential that planning on the Jordanelle Dam be completed and that this project be placed in construction in an improved time table. This project is planned to take care of the projected growth in these two counties and time dictates that more progress is needed to catch up with growth. Numerous delays on the construction of the Central Utah Project is translated into higher costs for construction, higher costs for necessary features and results are inflated cost of the end product--industrial and municipal-type water.

I wish to express to the committee, my appreciation and the appreciation of the Board of Directors of the Uintah Water Conservancy District for funding these very vital projects in Uintah County, the Uintah Basin, and the State of Utah.


ENERGY ROUTES
PROPOSED NEW ALIGNMENT
NORTH
VERNAL
Asphalt Ridge
JENSEN
Ashpalt Ridge Energy Corp.
ROOSEVELT
40
40
88
To Rangely Co
ROUTE A
ROUTE B
45
To Rangely Co
Moon Lake Power Plant
OURAY
Ramex
Syntana
BONANZA
Paraho
Tosco
White River Dam
U I N T A H
DUCHESNE CO.
UINTAH CO.
UTAH
COLORADO
Magic Circle
White River
White River Oil Shale
Cleveland Cliffs
ROUTE C
Naval Oil Shale Reserve # 2
Geokinetics
CARBON CO.
Texaco
Exxon
Geokinetics

LOCATION OF MAJOR ENERGY DEVELOPMENTS IN THE BONANZA & OURAY AREAS WITH PROPOSED NEW ROADS

Source: Uintah Basin Energy Planning and Development Council

STATEMENT OF HON. JAKE GARN, U.S. SENATOR FROM UTAH

Senator STENNIS. Senator Garn, we are glad you could come here. Would you like to say something now?

Senator GARN. Yes.

Senator STENNIS. We recognize Senator Garn.

Senator GARN. I apologize for being late. I had a meeting I had to attend.

I welcome all of these gentlemen who are friends of mine over the many years we have worked together on this project. For a long time before I ever became a Member of the Senate, you may not be aware, I was the Great Gildersleeve—the water commissioner—in Salt Lake City.

I want to comment on what has been an extremely difficult situation for a long time. We live in a State that is the second most arid State in the entire country. What may be pork barrel to someone else is an absolute necessity and life's blood to us. We get an average of 18 inches of rain, which is high. In some areas it is 4 and 5 inches of rain. We go all summer long with 90 or 100 days with no major precipitation. The vast majority of our water does not come in the form of liquid water but in the form of snow, and if we do not have the ability to store it, it is simply wasted. Most of it runs down the Colorado River. California uses our water. We don't have the ability to store it. It doesn't do us any good to put bricks in our toilet because you throw it away someplace else. Most people that have adequate water supply don't recognize the problem of the States like Utah that have such a small amount of natural rainfall.

Over the years the Central Utah Project has struggled along to the point where it is far beyond its original cost estimates for completion. As a matter of fact, at present levels it will never be completed because funding has not kept pace with the inflation rate. So, it is a project that I have supported as a member of this committee and the Appropriations Committee and I will continue to do so. But, the reason I want to lay out this background is to let you know how vital it is to our State, how much we need it, that it should have been completed by now—or much of it—and that it should be accelerated.

At the same time, I am well aware of the overall budget situation. It is out of control, literally, and I am just as aware of that. So, even though I feel this strongly about that project, will continue to support it, and as much as I can and in future years if we can get this budget under control, I will be back here requesting additional funding. But, I will put my money where my mouth is, not like some of my colleagues who want everybody else's budget cut but their own. We need to recognize that somebody is for every piece of this Federal budget. But I intend to support the President's request for a cut in this project for this year. I don't like doing that, but I think if we don't show some statesmanship in our favorite projects and the ones we feel are the most vital to our State, all we will do is condemn the rest of the economy to a 20-percent prime rate and in the long run delay project completion because the major reason it is not completed is due to inflation.

We are willing to take our share of cuts this year and try to help in the overall budget situation. But, I do say that this in no way mitigates my support or the need for this project.

I will be here in this committee for another 6 years, at least, to make sure that we attempt to get the budget under control so we can build this project in a reasonable timeframe without the devastating inflation that has made it impossible to complete by this time.

I apologize for being late. I am in the same meeting as Chairman Hatfield, and I thank you.

Senator STENNIS. Thank you, Senator. We had a strong case, but you made it stronger.

PREPARED STATEMENT

Now, before I recognize Senator Hart, I want to include in the record a statement from Governor Herschler of Wyoming which supports some water development project important to that area.

Without objection, that will go in at this point.

[The statement follows:]

STATEMENT OF GOV. ED HERSCHLER OF WYOMING

Mr. Chairman and members of the committee, development of water resources in the West by the Water and Power Resources Service has been very important to the economic and social well-being of the State of Wyoming in the past and it will continue to be important in the future due to our arid climate. Water development projects are necessary to provide adequate supplies for agricultural, municipal, and industrial uses within the State. The State of Wyoming strongly supports the programs of the Water and Power Resources Service as outlined in the proposed budget for fiscal year 1982. Funding should be continued for the rehabilitation and improvement of several existing projects in Wyoming. Timely rehabilitation is necessary to halt deterioration of existing facilities and to avoid greater repair costs in the future and the improved energy efficiency, reduced O. & M. costs, increased safety, and water conservation which will result from the improvements will increase the productivity of the projects and benefit the entire region. These projects are a necessity for a major portion of the agriculture industry in the State, as well as making a significant contribution to the agricultural economy of the Nation and they should be maintained in peak operating condition.

Some water development projects in the State may have to be reevaluated in light of the extensive energy development which is taking place. One of these is the Savery-Pothook project in south-central Wyoming and northwestern Colorado which is not included in the proposed budget. Industrial growth and the associated population influx will create demand for more industrial and municipal water than is presently available in the area. Industrial development is expected in several other energy-rich areas of Wyoming and water development will be necessary to meet these demands, also.

The reclamation program administered by the Water and Power Resources Service has, over the years, proven to be beneficial, necessary, and, to a large extent, self-supporting. The State of Wyoming, the surrounding region, and the entire Nation have benefited from projects initiated under this program.

Thank you, Mr. Chairman, for the opportunity to present this statement for the record.

COLORADO WATER DEVELOPMENT PROJECTS

STATEMENT OF HON. GARY HART, U.S. SENATOR FROM COLORADO

Senator STENNIS. I want to join the committee in that same appreciation, and the fact that you are trying to do something about these things, that you are here to help us make the decisions. Thank you.

Senator Hart, we are delighted to have you here to represent your State and we will be glad to have a statement from you and from them.

Senator HART. Thank you once again for your hospitality to me and my fellow Coloradans on a matter of great concern and interest to our State.

I am pleased to appear before your subcommittee, as I have for each of the last 6 years, to introduce the witnesses from Colorado and outline very briefly for this committee my own thoughts on appropriation for Colorado water projects.

INTRODUCTION OF SUPPORTING WITNESSES

First, let me introduce the witnesses who will appear on behalf of our interest for the State government: Mr. Bill McDonald who is the director and secretary of the Colorado Water Conservation Board; for the Dolores project, Mr. David Herrick; for the Narrows project, Mr. Gary Friehauf; for the Animas-La Plata project, Mr. Chirs A. Baker, Mr. Ernest House, Mr. Fred V. Kroeger, Mr. Brice Lee, Mr. Allen Murdock, Mr. R. T. Scott, and Mr. Sheldon Slade.

I want to yield to them because their testimony is more important to hear, but with the committee's indulgence, I would like to make a couple of brief comments.

Despite the need to cut Federal expenditures and balance the budget, I think we should continue an adequate level of funding for Federal water projects for reasons that you well know: the effect on National and State and local economies and the growth of those economies, the necessity of continuing agricultural production in the country, and in our region, the necessity for energy development and then, as you well know, the future repayment of the initial Federal costs that these projects do involve.

I don't support continued funding for water projects lightly. I take this position only because I support specific cuts elsewhere in the budget to enable us to continue our water projects spending.

Our highest priority is to continue construction of projects which are now underway. To cut them would be foolish. Slowing down construction would increase their costs, since construction costs are increasing more rapidly than the overall inflation rate. And it would postpone the day that projects are completed and the water users begin to repay the project construction costs.

The administration's budget includes adequate appropriation for ongoing construction. The new administration's budget revision only change the Carter administration's request on the Dolores project, lowering it by $3 million. This cutback is acceptable to the project sponsors.

Briefly, the Carter administration budget request or the new administration's budget revisions propose no funding for new water project construction. The Carter administration opposed new starts in an effort to increase pressure for congressional approval of it's proposed water policy reforms. The Reagan administration believes water project starts should not be undertaken because of budgetary reasons.

I disagree with both administrations. But the position of the Carter administration had the effect of delaying several projects which had been ready for construction. We should not continue these delays. Budgetary constraints will limit the number of new starts, but need not prevent them altogether.

In Colorado we have broad agreement that two new projects should be undertaken in fiscal 1982. That agreement includes the resumption of construction in the Narrows project with an appropriation of $400,000, and the beginning of construction of Animas-La Plata with an appropriation of $2.87 million.

Local sponsors of these projects will give you detailed information on them. Let me just mention a few thoughts on each.

NARROWS UNIT, COLO.

In the case of the Narrows project, that project is necessary so Colorado can use its fair share, its legal share, of the South Platte River water. It was under construction when it fell victim by the so-called hit list of the Carter administration. Unfortunately, the House of Representatives failed to override the President's veto of the 1979 appropriations bill.

ANIMAS-LA PLATA PROJECT

The second, Animas-La Plata, was being delayed because of a legal question of the conservancy district. A recent court decision settled that issue and went ahead in forming the conservancy district.

I personally met with all interested citizens and groups and carefully reviewed all the issues associated with this project, including those for it and those against it. I am convinced it is a sound project and should be constructed. That project would meet many local water needs—the municipal supplies for the city of Durango and the Ute Tribes, including water to develop the coal in the reservations.

Finally, on the issue of additional planning, Colorado is still not using much of what it is entitled to of the Colorado River water. New storage projects are needed in the western part of our State. Development of that water is essential to develop energy in my State and in our region. If industry builds its own projects, only industrial needs will be met.

We should consider both changes in the design of projects to supply water for energy development, irrigation, and municipal needs of the new communities in our State, and possible innovative financing in which energy companies which can afford their own water development might pay up front their share of project cost while public agencies pay other costs with repayment by other users, such as farmers.

Mr. Chairman, as you well know, in our part of the world water development is crucial to our life. We have made that argument before you. You have been understanding and sympathetic. You understand the needs of Colorado and the Western United States. We once again appear before your committee in an effort to solidify your support and the support of the other members of this committee. We feel going forward with water development will help this country's economy, at least as much as cutting Federal expenditures in other areas. We encourage the continued support that this committee has given us in the past.

In behalf of my fellow Coloradans and people from my area, we thank you again for your hospitality.

PREPARED STATEMENT

I would ask unanimous consent to include the full text of my remarks in the record, together with a copy of a letter that I sent to President Reagan on February 6, 1981, urging him to support continued development of the Western water projects in the interest of Western water development.

Senator STENNIS. Without objection, that will be included.

[The statement follows:]

STATEMENT OF SENATOR GARY HART

Mr. Chairman, I am pleased to appear before you -- as I have for each of the last six years -- to introduce the witnesses from Colorado who will testify on appropriations for Colorado water projects, and to share with the committee my views on those projects.

First, let me introduce the Colorado witnesses.

Mr. J. William McDonald, the Director and Secretary of the Colorado Water Conservation Board, will appear on behalf of the state government. I commend to you his testimony, which I endorse as an excellent overview of the state's needs.

Mr. McDonald's testimony will be supplemented by testimony on individual projects by these Coloradans:

- For the Dolores Project, Mr. David D. Herrick;
- For the Narrows Project, Mr. Gary Friehauf;
- For the Animas-La Plata Project, Mr. Chris A. Baker, Mr. Ernest House, Mr. Fred V. Kroeger, Mr. Brice Lee, Mr. Allen J. Murdock, Mr. R.T. Scott, and Mr. Sheldon Slade.

Before yielding to these distinguished gentlemen, I would like to outline briefly my thoughts on appropriations for Colorado water projects in fiscal year 1982.

Before discussing individual projects, however, I should explain why spending on water projects is important, even in a time of severe budgetary constraints.

I strongly support a balanced budget, as one necessary way to get inflation under control. To balance the budget, we will have to cut substantially the level of federal spending to which we have grown accustomed.

In a time of budget cutting, all of us -- members of Congress as well as private citizens -- have an extra responsibility to examine critically the Federal spending programs we support. This is true for water project spending, as it is true for all other parts of the Federal budget.

After reviewing critically the Federal water program, I have concluded it makes sense to continue adequate funding for water development projects for reclamation and energy development. We should continue normal construction schedules for those projects already underway. We should undertake some new construction starts -- although we cannot afford as many new starts as would be begun under a business-as-usual approach. And, we need to undertake new planning efforts, so we can meet our future water needs.

Let me emphasize that I do not take this position lightly. I can recommend adequate funding for water projects only because I have gone through the difficult process of identifying other specific cuts in federal spending to enable us to continue our water projects spending.

ONGOING CONSTRUCTION

Our highest priority is to maintain a reasonable construction schedule for the several federal projects which are now underway in our state. The Administration's budget request is adequate to do this. It includes:

- Dallas Creek, $6,976,000;
- Dolores, $43,586,000;
- Fryingpan-Arkansas, $21,204,000;
- Closed Basin, $2,538,000;
- Uncompahgre, $1,222,000.

These are adequate and realistic requests, and I urge you to approve them.

Some may argue that we should slow the construction of ongoing projects to reduce expenditures in FY 1982. This would be penny-wise, but pound-foolish. Reclamation projects represent Federal costs while they are under construction, but become a source of revenue once the construction is completed. Slowing down construction would increase their costs, since construction costs are increasing more rapidly than the overall inflation rate. More importantly, slowing construction would actually reduce revenues, by delaying the time when the users begin making full payments to the Federal treasury.

Since this is an important point, let me illustrate it with the Fryingpan-Arkansas project. This major project is near completion, and the water users have already begun meeting their repayment obligations, through a .2 mil levy on property in the conservancy district. However, when the project is certified as complete, this repayment rate will jump to .9 mil -- a 350% increase. If construction of the project proceeds on a normal schedule, as recommended by the President, this increase in repayment will begin next year. If construction is slowed, however, not only will construction costs be higher, but also the higher revenues will not be available until later.

So, even on purely budgetary grounds, it makes sense to continue a normal schedule.

NEW CONSTRUCTION STARTS

For the second year in a row, Administration budget requests do not include any proposed construction starts on new water projects. This is true for the new Administration's revised budget, just as it was true for the Carter Administration's budget requests for both FY 1981 and FY 1982.

The Carter Administration held new water projects hostage, to increase the pressure for Congressional approval of changes in the water project planning proces. The Reagan Administration's failure to propose new starts is apparently a misguided application of a legitimate desire to control federal spending.

I have strongly opposed the failure of both Administrations to recommend the construction of new water projects.

Last year, 28 Senators joined me in sending a letter to President Carter opposing his policy of no new starts.

This year, I sent a letter to President Reagan, urging him to propose some new construction starts at the same time as he proposed other changes in the budget. I would like to submit that letter for the record. I have not received a reply from President Reagan, but his budget revision did not include any new starts.

One consequence of the position of the Administrations is that construction has not begun on many water projects for which advance planning has been completed, even though construction of those projects would benefit the nation's economy.

Although spending constraints will limit the number of projects we can afford to start next year, those constraints should not keep us from considering our water needs and balancing them against the other needs served by Federal spending. I am confident this balancing will show that some new water projects should be initiated next year. These projects would help meet our most critical water needs, and would make it possible for energy development in the West to proceed. In addition, approval of some new construction starts would indicate to the West that the Federal government will continue to play a key role in developing the West's scar~~s~~ce water resources.

I propose that the new starts to be undertaken next year include the Narrows and Animas-La Plata projects in Colorado.

Congress should add to the budget $400,000 to ~~begin~~ resume construction of the Narrows, and $2.87 million to begin construction of Animas-La Plata.

The local sponsors of these two projects will detail in their testimony the reasons why these projects should be constructed, beginning in FY 1982. However, I would like to add just a few comments.

Construction was already underway on the Narrows Project, when it fell victim to President Carter's "hit list." Its construction was blocked when the House of Representatives failed to override the President's veto of the FY 1978 water project appropriations bill.

I supported the Narrows in 1978, and I still support it today. Each year, Colorado loses substantial amounts of water to which we have legal rights under interstate compacts. The Narrows would let Colorado use its remaining share of the South Platte River water, and use that water for productive farming. The project should be built, without further delay.

Two years ago -- when the construction of the Narrows was temporarily blocked by President Carter's veto -- I proposed, and the Department of the Interior and the Colorado Department of Natural Resources undertook, a new comparison of the different options for the use of Colorado's remaining share of the South Platte River water. That study is still underway. We should not abandon it because of the renewed effort to secure construction funding for the Narrows. Although I am personally frustrated by the delay in that study, the study will be completed in time for its results to be reviewed before the end of this fiscal year. If -- as is very unlikely -- the study shows that some other major water storage project would be preferable to the Narrows, the state government and the Department of Interior could elect to pursue that other alternative. However, the study is more likely to be helpful in determining which other water use measures should be taken in conjunction with the Narrows.

The second new start should be Animas-La Plata. Last week, a state court settled a local dispute over the project, by determining that proper measures had been taken to create a conservancy district for the project. Following the earlier completion of a definite plan report and an environmental impact statement on the project, the court's decision makes the project ready for construction.

I have personally examined this project in detail, meeting with the local residents to discuss all issues associated with the project. That review convinced me the project is sound. It will supply additional water for municipal and agricultural needs, and for the Ute Mountain Ute and Southern Ute Indian Tribes. The Tribe's water will make possible the development of coal on the Tribes' reservations, and will resolve satisfactorily the Tribes' legitimate claims to an even greater quantity of water. If the Indians' water rights are not resolved by construction of the projects, those rights will continue to cloud all other water rights on the La Plata River.

NEW PLANNING

The Colorado Water Conservation Board has requested an addition to the budget for study of other possible water projects on Colorado's Western Slope. I support that request.

Despite the best efforts of many, Colorado is still not using all the water to which we have legal right. Every year, between seven hundred thousand and one million acre-feet of our share of the Colorado River flows downstream into other states. This is water that interstate compacts give us the right to consume in Colorado, but we won't be able to exercise those rights until we get adequate facilities to conserve the water for use in our State.

In the 1980's, Colorado can't afford to watch our water continue to flow into other states. We absolutely must develop new storage projects to meet the water needs of energy, agriculture, and the other elements of a strong Western Slope economy.

The development of western Colorado's vast energy resources -- especially our oil shale -- depends on water. It will take from one to seven barrels of water to produce one barrel of oil from shale. The energy companies will need new water supply projects to store this water.

If industry builds its own projects, only industrial needs will be met.

Developing the water for energy through federally-financed projects is a better approach, since it gives us an opportunity to meet other water needs. Public projects would be larger, multi-purpose projects, providing water for agriculture and the towns where the energy workers live, as well as energy development itself.

Last year, at my request, the Department of the Interior reviewed eight Western Slope projects still in the planning stages, to determine if they could supply water to new energy development. The committee has a copy of the department's report on those projects. The report shows that the benefit-cost ratio of four of the projects would be substantially improved by changing the projects to supply water to likely energy development. The greatest change involved Savery-Pot Hook. That project's benefit-cost ratio would change from .95 to 1, to 2.44 to 1.

We should build on this limited review, by undertaking more intensive planning efforts to determine how best to develop western Colorado's water. Besides developing plans on specific projects, we should examine innovative ways to finance them, perhaps by combining the best of private development and the traditional Western reclamation projects. The energy companies could pay their share, as they would for private projects. Public funds could be used for the other costs, with long-term repayment by municipal and agricultural users.

Mr. Chairman, I apprecaite this opportunity to present an overview of Colorado's water needs.

LETTER FROM SENATOR GARY HART

February 6, 1981

The Honorable Ronald Reagan
The White House
Washington, D.C. 20500

Dear Mr. President:

The Administration is now intensively reviewing the previous Administration's fiscal year 1982 budget, to develop budget revisions to be proposed to Congress later this month. Although the primary purpose of this effort is to reduce Federal spending, the review also provides an opportunity to correct a major fault in the previous Administration's budget request. For the second year in a row, the previous Administration failed to request any funds for new water projects. I respectfully request that you direct Administration officials -- in conjunction with the appropriate Congressional delegations, state governments, and local officials -- to review the new water projects now eligible for construction to determine which should be undertaken as new starts in FY82.

The failure of the previous Administration to propose new construction starts was not based on a determination that water projects are of lower national priority than other matters included in the budget. Instead, President Carter used possible Administration support for new starts to increase pressure for Congressional approval of his proposed water policy reforms. The budget messages accompanying his Administration's last two requests made it clear that the Administration would support new starts only if Congress adopted President Carter's policy reforms.

One consequence of the previous Administration's position is that construction has been blocked on many water projects for which advance planning has been completed, even though construction of those projects would benefit the nation's economy.

Unlike any other Federal public works program, the reclamation program of Western water development includes a repayment scheme under which the users of water from a project repay to the Federal treasury the construction costs of the project. Further, local and regional economic growth -- the domestic energy production which our nation desperately needs -- often depends upon new water projects.

Although spending constraints will limit the number of projects we can afford to start next year, those constraints should not keep us from considering our water needs and balancing them against the other needs served by Federal spending. I am confident this balancing will show that some water projects should be initiated next year, and that ongoing projects should continue to be funded at current levels.

Besides helping to meet our most critical water needs, some new starts would indicate to the West that this Administration believes the Federal government should continue to play an important role in developing our water resources. In addition, energy development in the West simply cannot proceed without greater water storage capacity.

I would be happy to work with the other members of the Colorado Congressional delegation, Administration officials, and state and local officials to review the projects for which construction could be started next year.

If this review cannot be completed in time to include the list of proposed new starts in the budget revisions the Administration will announce later this month, it would still be helpful for the review to be undertaken so the Administration can identify the new starts it supports when Congress considers the energy and water appropriations bill.

I appreciate your attention to this important matter.

Sincerely,

Gary Hart

Gary Hart

WATER RESOURCE DEVELOPMENT

Senator Stennis. Gentlemen, no one knows the problem better than Senator Hart. I know you think about this not only when you are here, but when you are not here. We are on another committee together and we have gotten to know each other mighty well. I feel like I want to thank you just as an American for the interest, Senator Hart, and the rest of you for conserving this water and protecting the resources you have there. And I distinctly remember several of them from years past. We had them up on the floor during some other trying times about the policies.

I support your efforts. As I said here just before you came in, I have been on this Appropriations Committee for 25 years and in all my years I have had a lot to consider. These projects are the most constructive and the most enduring in value and contribute more to the economic welfare of people and the Government than any other programs I have dealt with.

You people in the West really know how to capitalize on what water you do get—how to use it to advantage, and certainly you are entitled to all you have been given. I think we could double the emphasis on these projects and others of like value and I hate for us to have to hold back to be in line with the rest of the reductions because you can't rule time and we are using up time when we neglect to make these improvements in this field.

We will all go forward as best we can consistent with other obligations. Again, I commend you.

Who do you have next?

Senator Hart. Our lead witness will be Bill McDonald, director and secretary of the Colorado Water Conservation Board.

Senator STENNIS. We are glad to hear all of you. We will put all your statements into the record and we would appreciate you emphasizing the major points in your oral remarks.

Senator HART. Thank you once again. I have explained to my fellow citizens that I do have to go back to the Democratic caucus. I appreciate your hospitality as always. Thank you for hearing the statement.

Senator STENNIS. I am glad you could come.

COLORADO WATER RESOURCE DEVELOPMENT PROJECTS

STATEMENT OF WILLIAM McDONALD, DIRECTOR, COLORADO WATER CONSERVATION BOARD

Mr. McDONALD. I am Bill McDonald, director and secretary of the Colorado Water Conservation Board. I am privileged to testify today on behalf of Richard D. Lamm, Governor of the State of Colorado; Mr. Monte Pascoe, executive director of the Colorado Department of Natural Resources; and the board itself, which is the State agency charged with the protection, conservation, and management of the water resources of the State of Colorado.

With but two exceptions, the President's recommended budget for the U.S. Water and Power Resources Service adequately funds the activities necessary for the timely execution and continuation of reclamation programs in the State of Colorado. The items to which we take exception are as follows:

The failure to include construction funds for the authorized Narrows and Animas-La Plata projects; and the failure to include funds for further planning on four other additional authorized projects.

FUNDING REQUEST

We urge that $400,000 be included in the fiscal year 1982 budget for continuing construction on the Narrows project, that $2,870,000 be included for the initiation of construction on the Animas-La Plata project, and that funds be included in the fiscal year 1982 budget for continuing planning on the Savery-Pot Hook, Fruitland Mesa, West Divide, and San Miguel projects.

The President's recommended budget contains $103,842,000 for construction, nothing for advance planning, and about $2.5 million for feasibility investigations on projects in Colorado. The State believes that these sums are, with the exceptions noted above, adequate for the timely execution and continuation of reclamation programs in Colorado. We would caution, however, that any reduction in these budget requests, particularly for construction activities, would be detrimental to the water users of the State of Colorado and, in the instance of the Closed Basin project, to the interests of the States of New Mexico and Texas as well.

NARROWS UNIT, COLORADO

With respect to the Narrows project, we respectfully urge that Congress include $400,000 in the fiscal year 1982 budget to continue construction on this project. The Narrows was authorized by Congress in 1970 and was actually under construction in 1977 when it was included on the Carter administration's infamous "hit list." At that time, construction activities were suspended, even though property acquisition and final engineering and design work were well underway. The $400,000 request which we are making would serve to reactivate construction on this important project.

ANIMAS-LA PLATA PROJECT, COLORADO

With respect to the Animas-La Plata project, we respectfully urge Congress to include $2,870,000 in the fiscal year 1982 budget in order that construction on this project can be initiated. This is a joint Colorado-New Mexico project designed, among other things, to address many of the problems which confront the Indian reservations in the project area. For example, in Colorado, both the Southern Ute and Ute Mountain Ute Tribes have substantial amounts of lands which would be irrigated by the project. In addition, both reservations contain significant coal deposits which could be converted into other forms of energy if water supplies can be made available. Other components of the project would serve non-Indian populations in Colorado and New Mexico with municipal water. Finally, project water would significantly strengthen the irrigated agricultural economy of southwestern Colorado.

The construction of this project has been caught up in continuing and long-standing delays. When authorized in 1968, it was represented to Congress that all preconstruction planning could be completed in 3 years. Thirteen years have now elapsed. However, at long last, the definite plan report and final environmental impact statement have been completed and have received final approval. In addition, the local court has just created the expanded water conservancy district which will serve as the local sponsor and repayment entity for the project. Thus, all is ready for construction.

The genesis of this project is the Colorado River Storage Project Act of 1956. By that act, the Animas-La Plata project was designated as a potential participating reclamation project, subject to a finding of feasibility and specific authorization by the Congress. Both of these latter events have occurred. Forty-six percent of the power revenues derived from the Colorado River storage project are specifically and exclusively dedicated to Colorado to assist in the repayment of those project features attributable to irrigation.

The necessary revenues will accrue to both Colorado and New Mexico during the repayment period for the project. If the law is to be followed, these revenues cannot be used for any purpose other than to assist in the repayment of designated Colorado and New Mexico reclamation projects. We simply ask that a portion of these revenues be dedicated to the construction of the Animas-La Plata project as Congress has already specifically directed.

I would also note that the Colorado River Basin Project Act of 1968 specifies that:

> The Secretary (of the Interior) is directed to proceed as nearly as practicable with the construction of the Animas-La Plata, Dolores, Dallas Creek, West Divide, and San

Miguel participating Federal reclamation projects concurrently with the construction of the Central Arizona Project, to the end that such projects shall be completed not later than the date of the first delivery of water from said Central Arizona Project * * * section 501(b), Public Law 90-537; 82 Stat. 885.

The Central Arizona Project is scheduled to deliver water commencing in 1985. Obviously, the Congress is obligated to proceed in a timely manner since there will be a 4- to 5-year construction period for the project. Failure to appropriate funds for the initiation of construction would be unfortunate since legal problems concerning the first delivery of water from the Central Arizona Project might then arise.

PLANNING ACTIVITIES ON PARTICIPATING PROJECTS

The third component of our request relates to the need to provide funding in the fiscal year 1982 budget for continuing planning on and reformulation of the previously authorized San Miguel, West Divide, Fruitland Mesa, and Savery Pot-Hook projects, the first two of these being among the five participating projects of the Colorado River storage project which are to be constructed concurrently with the Central Arizona Project. The Carter administration declared these four projects economically unjustified based upon the planning and evaluation criteria employed by that administration.

Senator STENNIS. I have looked through the rest of the statement. It is a splendid statement. I will assure you that it will be considered.

I could only get excused from a meeting where I will be one of the witnesses myself until 2:45 and it is a long way from here to where I have to go. So, it is under those extreme conditions that I must ask you to conclude at this time.

Mr. McDONALD. Yes, sir; I understand.

[The statement follows:]

STATEMENT OF J. WILLIAM McDONALD, DIRECTOR, COLORADO WATER CONSERVATION BOARD

I am J. William McDonald, Director and Secretary of the Colorado Water Conservation Board. I am testifying today on behalf of the Honorable Richard D. Lamm, Governor of Colorado; Mr. D. Monte Pascoe, Executive Director of the Colorado Department of Natural Resources; and the Board itself, which is the State agency charged with the protection, conservation, and management of the water resources of the State of of Colorado.

Summary of Request

With but two exceptions, the President's recommended budget for the U.S. Water and Power Resouces Service adequately funds the activities necessary for the timely execution and continuation of reclamation programs in the State of Colorado. The items to which we take exception are as follows:

(1) the failure to include construction funds for the authorized Narrows and Animas-La Plata projects, and

(2) the failure to include funds for further planning on four additional authorized projects.

We urge that $400,000 be included in the FY 1982 budget for continuing construction on the Narrows Project, that $2.97 million dollars be included for the initiation of construction on the Animas-La Plata project, and that funds be included in the FY82 budget for continuing planning on the Savery-Pot Hook, Fruitland Mesa, West Divide, and San Miguel projects.

Details of Request

The President's recommended budget contains $103,842,000 for construction, nothing for advance planning, and about $2,500,000 for feasibility investigations on projects in Colorado. The State believes that these sums are, with the exceptions noted above, adequate for the timely execution and continuation of reclamation programs in Colorado. We would caution, however, that any reduction in these budget requests, particularly for construction activities, would be detrimental to the water users of the State of Colorado and, in the instance of the Closed Basin project, to the interests of the states of New Mexico and Texas as well.

I would like to specifically mention the Grand Valley and Paradox Valley units, both of which are components of the Colorado River Basin Salinity Control program. The seven states of the Colorado River Basin have, acting through the auspices of the Salinity Control Forum, endorsed a basinwide, coordinated approach to the management of salinity. The construction of the two units in Colorado is an intregal component of that basinwide effort. We endorse the funding for those projects which is contained in the President's recommended budget.

With respect to the Narrows Project, we respectfully urge that Congress include $400,000 in the FY82 budget to continue construction on this project. The Narrows was authorized by Congress in 1970 and was actually under construction in 1977 when it was included on the Carter Administration's infamous hit list. At that time, construction activities were suspended, even though property acquisition and final engineering and design work were well under way. The $400,000 request which we are making would serve to reactivate construction on this important project.

With respect to the Animas-La Plata project, we respectfully urge Congress to include $2.97 million dollars in the FY82 budget in order that construction on this project can be initiated. This is a joint Colorado-New Mexico project designed, among other things, to address many of the problems which confront the Indian reservations in the project area. For example, in Colorado, both the Southern Ute and Ute Mountain Ute Tribes have substantial amounts of lands which could be irrigated by the project. In addition, both reservations contain significant coal deposits which could be converted into other forms of energy if water supplies can be made available. Other components of the project would serve non-Indian populations in Colorado and New Mexico with municipal water. Finally, project water would significantly strengthen the irrigated agricultural economy of southwestern Colorado.

The construction of this project has been caught up in continuing and long-standing delays. When authorized in 1968, it was represented to Congress that all preconstuction planning could be completed in three years. Thirteen years have now elapsed. However, at long last, the definite plan report and final environmental impact statement have been completed and have received final approval. In addition, the local court has just created the expanded water conservancy district which will serve as the local sponsor and repayment entity for the project. Thus, all is ready for construction.

The genesis of this project is the Colorado River Storage Project Act of 1956. By that act, the Animas-La Plata project was designated as a potential participating reclamation project, subject to a finding of feasibility and specific authorization by the Congress. Both of these latter events have occurred. Forty-six percent of the power revenues derived from the Colorado River Storage Project are specifically and exclusively dedicated to Colorado to assist in the repayment of those project features attributable to irrigation. The necessary revenues will accrue to both Colorado and New Mexico during the repayment period for the project. If the law is to be followed, these revenues cannot be used for any purpose other than to assist in the repayment of designated Colorado and New Mexico reclamation projects. We simply ask that a portion of these revenues be dedicated to the construction of the Animas-La Plata project as Congress has already specifically directed.

I would also note that the Colorado River Basin Project Act of 1968 specifies that:

> The Secretary (of the Interior) is directed to proceed as nearly as practible with the construction of the Animas-La Plata, Dolores, Dallas Creek, West Divide, and San Miguel participating Federal reclamation projects concurrently with the construction of the Central Arizona Project, to the end that such projects shall be completed not later than the date of the first delivery of water from said Central Arizona Project....
>
> Sec. 501(b), P.L. 90-537; 82 Stat. 885.

The Central Arizona Project is scheduled to deliver water commencing in 1985. Obviously, the Congress is obligated to proceed in a timely manner since there will be a four to five year construction period for the project. Failure to appropriate funds for the initiation of construction would be unfortunate since legal problems concerning the first delivery of water from the Central Arizona Project might then arise.

The third component of our request relates to the need to provide funding in the FY82 budget for continuing planning on and reformulation of the previously authorized San Miguel, West Divide, Fruitland Mesa, and Savery Pot-Hook projects, the first two of these being among the five participating projects of the Colorado River Storage Project which are to be constructed concurrently with the Central Arizona Project. The Carter

Administration declared these four projects economically unjustified based upon the planning and evaluation criteria employed by that administration.

We could not disagree more with the criteria which have been applied in recent years. The traditional cost-benefit ratio measures neither all of the benefits nor all of the costs of a project, particularly as applied by the Carter Administration. Thus, to reject valuable water resource development projects on this sole criterion seems to us inappropriate. In addition, we would note again that Congress is obligated to proceed in a timely manner with the San Miguel and West Divide water projects since the law provides that they are to be constructed concurrently with the construction of the Central Arizona Project. The Board specifically requests Congress to provide $1 million dollars for the continuation of planning on these projects in order that they may be reformulated and brought to fruition.

The final program which I would like to mention is the Atmospheric Water Resources Management Program. Colorado supports the request for $600,000 in FY82 to continue that portion of this research and development program which applies to the Colorado River Basin.

The increase in recent years of winter cloud seeding projects in Colorado has heightened interest in and awareness of the possibilities afforded. Along with these projects there has been concern over remaining scientific uncertainties, over the fact that programs benefit some at the expense of others, and over conflict of legal and governmental responsibilities.

Because Colorado will bear the major burden of weather modification operations to augment the water of the Colorado River Basin, the State has a particular interest in research, not only in the development of the technology but in procedures for mitigating impacts on affected communities. If seeding does result in economic disruption, the extent of the damage must be assessed and compensation procedures addressed.

We emphasize that it is research and demonstration which the State, for the moment, supports. We believe that many questions remain to be answered before operational programs can be routinely implemented.

I appreciate the opportunity you have afforded me to impose upon your busy schedule today. The fact that Colorado and other states have had the opportunity to present a case before you should remind us all that the legislative processes of our government are still the best that have yet to be devised. We thank you.

STATEMENT OF GARY FRIEHAUF, LOWER SOUTH PLATTE WATER CONSERVANCY DISTRICT

Senator STENNIS. The next speaker.

Mr. FRIEHAUF. I have submitted a copy of my statement from the Lower South Platte Water Conservancy District. I also have a copy of the Legislative Resolution 26 from the Legislature of Nebraska, eighty-seventh legislature, first session. The resolution passed on March 18, 1981, in which they resolved to urge the Appropriation Committees to provide the funds necessary to reinitiate the construction of this long delayed, but congressionally approved project—the Narrows project.

I might point out, that the first is receiving official approval and support from our neighbors in the great State of Nebraska.

In addition to that, we have received support from the Nebraska Water Resources Association and Central Nebraska Public Power Irrigation District, Nebraska Association Natural Resources District, and Twin Platte Natural Resources District. Those are some of the up-to-date items of support that we have received.

We would like to ask for $2 million, but in light of what Senator Armstrong has said, we realize that is not a very wise request, so we are coming today with a very modest request of $400,000 to resume construction activities on the Narrows project. As you know, the Colorado appropriations doctrine, and under that the Narrows project, has a 4-year conditional retrieve which requires approval of due diligence every 4 years. It is going to come up in May 1982. We have not received that appropriation by the Congress for 4 years now, and it will be very beneficial in that effort if we could receive this modest appropriation. It would be a signal that the Congress fully intends to carry out the commitment that was made to us through the contracts which we signed in 1976 for payment of cost allocated for irrigation.

That concludes my presentation. One other thing, Mr. Chairman, we would like to submit for the record is Narrows unit, Colorado.

Senator STENNIS. We will receive that for our files. The supporting statements, however, will be included in full.

[The statements follow:]

STATEMENT OF LOWER SOUTH PLATTE WATER CONSERVANCY DISTRICT

The Lower South Platte Water Conservancy District is honored to have this opportunity once again to submit written testimony in support of construction of the Narrows Unit of the Missouri River Basin Project. Oral testimony summarizing our needs and support has also been presented to this committee today.

Today we are requesting $400,000 for the resumption of construction of the Narrows Project for fiscal year 1982. We have included restatements of our continued support, reasons and evidence of need, and examples of ever increasing values to be derived from this project.

The Narrows Project remains an essential factor in meeting the water needs of the South Platte Basin. The purpose of these funds would be to resume construction activities of the Narrows Project, by the Water and Power Resources Service. More specifically the monies would be used to establish a field office and staff, to reinitiate land acquisition activities, to let contracts for engineering design of railroad relocation, and other necessary activities of the Water and Power Resources Service.

We realize the requested amount is a nominal figure. However, it is essential that the Narrows Unit receive an appropriation for 1982. This one act will provide a signal that the days of the hit list are gone, it will signal to the people of the South Platte Valley that they have not been forgotten, it will restore the word and contract of the United States Government to a level of honor, and will signal that Narrows is to be constructed thus protecting water storage rights in the Colorado state courts.

The Water and Power Resources Service has indicated to us that they would have the capability of utilizing $400 to $600 thousand dollars in FY-1982. The budget tightening efforts of the Congress and the administraion have our attention. We agree with the general concept of controlling the expenditures, but the wise development of our water resources is an investment in the long term welfare of our nation. Investments in water resources today return benefits of many fold tomorrow. An economically sound tomorrow is also a concern of today. These overall national concerns contribute to our decision to request a modest $400,000.

One year ago our testimony stated that the Carter Administration position of not favoring funding for immediate construction of the Narrows Project had not provided positive solutions of the problems facing the South Platte River Valley. We submitted figures on the lost water resource, and the damages caused by the 1979 spring flood. Little did we know then, beginning in late April and continuing through June of 1980 the South Platte River would go on another rampage. State and county roads and bridges were destroyed or severely damaged. In Morgan county there were six bridges requiring replacement or extensive repair. Several highways were closed to traffic for thirty or so days. State and county road crews worked around the clock to keep from totally loosing bridges in Logan county. The town of Crook was threatened by flood flows for several weeks.

Damages to irrigation facilities were also extensive. Colorado state officials reported $900,000 in damages to irrigation facilities. Damages in Morgan, Logan, Washington, and Sedgwick counties could have been virtually eliminated if the Narrows dam and reservoir had been place.

We usually talk only of Narrows Project benefits in Colorado, but the citizens of Nebraska suffered needless destruction as well. We do not have specific figures on the cost of protective measures or the damages caused, but various sites were visited and damages similar to those in Colorado were witnessed.

The nearly sixty days of flooding was a trying time, but to the people of the arid west, loss of vast quantities of water was the true tragedy. 1,300,000 acre feet of water was lost during water year 1980, 630,000 in May alone. The average annual yield of the South Platte Basin or watershed in Colorado is only a little over 1,000,000 acre feet. One year's average supply lost to any beneficial use.

The flooded fields in May were even a greater disaster in July when the river flows were gone. Several irrigation systems were without water becuase their diversion dam had been damaged and repairs were difficult to make. Others could not get water because the flows were so low that the priority system had to be put into effect. The tragedy is watching a year's supply flow by knowing that thirty days later there will be a short supply. Narrows, an on-channel reservoir is the only way to capture the water when it is available for use when it is needed!

The Narrows Unit has been authorized twice by the Congress of the United States. Twice in recent history the Congress has reviewed the problems, water supply, flood control, wildlife enhancement, and recreation, and twice has decided the Narrows Unit is an important, necessary integral component in the wise overall development of the water resource of the country, region, and state. The reauthorization of August 1970 was a direct product of the tireless efforts and support of the local people, who, began the long road in 1958. The initial investigation money came from state and local sources. Studies were not site specific, but were aimed at an evaluation of the broad needs and problems. Numerous storage sites were reviewed and evaluated. The evaluations were not emotional, but were founded upon sound principles for project evaluation.

The federal studies were reviewed and in instances independent professional studies were commissioned to substantiate or refute studies of the federal governmental agencies. On May 28, 1968 legislation proposing authorization of Narrows was introduced in the House and Senate of the U.S. Congress. Since that time Narrows has been the subject of study after study. In 1973 Congress passed an appropriation of $1.5 million to initiate construction. More studies have been done since, but the local sponsors have continued to support and push for construction of Narrows.

Congressional appropriations for construction were continuous over the years beginning with the $1.5 million for FY-1974; $6 million for FY-1975; about $3 million for FY-1976; over $3.9 million for FY-1977; and $9.7 million was requested for FY-1978 by the Ford Administration.

The local sponsors have continued to express support, argue the needs throughout the recent difficulties.

We dislike using the overly used term "Hit List". It portrays a cruel act committed without reason, concern, or understanding. One totally void of any consideration for the impact of the action of future needs or concern for the humane efforts and lives involved. However, having experienced the last four years it seems the "Hit List" is the only proper term. The Narrows Unit was subject to the Carter "Hit List" and veto of 1978.

The congress and this committee fought valiantly to override the Presidential veto, that effort was sincerely appreciated. We trust that time is past. Now is a time of new hope, renewed trust, and renewed efforts.

The past four years were not a total waste. Additional studies were conducted. Following is a summary of the results of those studies.

Safety of the proposed earthfilled Narrows dam has been addressed by three independent efforts. The result of these safety studies has been unanimous, a safe dam can be built and the Bureau (Water and Power Resources Service) assumptions are highly conservative in favor of safety.

Flood control benefits have been verified by the Corps of Engineers, water quality of the reservoir will not preclude water contact sports. The Narrows impoundment will have no impact on the quality of habitat in the Central Nebraska Flyway.

Groundwater recharge programs are not a reasonable alternative to on-channel storage.

In addition to the problems addressed over the past years the rapidly expanding energy development is creating ever increasing demands on the regional water supplies. A 1979 report cites a study conducted by the U.S. Department of Housing and Urban Development. The report says that the current east slope population in Colorado is 2.3 million, or 80% of the total state population. The report projects an increase of 1,000,000 by the year 2000. This growth will require 200,000 additional housing units to be available between 1985 and 2000 for habitation along the front range. 200,000 acre feet of additional water will have to be developed in the South Platte Basin over the next 10 to 15 years to meet this demand.

In addition to population growth thermal electric generation plants are placing direct and immediate demands on our useable supply. There is a 500 megawatt fossil fuel thermal generation plant located in the heart of the project service area, near Brush. The first unit is projected to go on line in October 1981, and to consume 7,000 acre feet of water per year. There is great probability that a second stage will be added soon.

Where will this water supply come from? The increases represent 20% of the annual water supply of the South Platte Basin in Colorado. How can we increase the useable supply to that extent?

The Hud report predicts; given agricultures high dependency on irrigation and the competitive demand for water from the additional population, it appears certain that Colorado agricultural productivity cannot keep up. Water will be taken from agriculture!

Water supplies limit the agricultural productivity of Northeastern Colorado and Western Nebraska. President Reagan, in his inaugural speech appealed to us all to make, "our best efforts", work hard to be productive. He referred to the farmer as those "heroes" who produce "food to feed all of us".

Without dependable water supplies and protection from flood the "heroes" farming 287,000 acres to be served by the Narrows Unit cannot do their best, cannot produce to help with the national balance of payments, cannot make most efficient use of the petroleum fuels and petro-chemicals essential to their business.

The Narrows Unit is not an expenditure but an investment. The future welfare of Colorado, and Nebraska depends on manageable water supplies. Energy resource development, alternate fuels, population growth, and a sound productive agricultural economic base all rely on water. An investment in the water resources, construction of the Narrows Unit is essential in meeting these other demands.

Construction for Narrows was begin in 1976. About 2,300 acres of land has been purchased under negotiated sales contracts. Other land holders are anxious to resume negotiations. The final Environmental Statement was completed in May 1976. Repayment contracts with the local sponsors were signed in July 1976.

The Narrows Unit is ready and waiting for an appropriation for the resumption of construction.

In conclusion the Narrows Unit, Colorado is a water project essential to the welfare of the people of our district, our state, and of our country. The advantage of tremendous benefits this country has received through reclamation projects is a matter of record. The Narrows project can further exemplify the value of water resource utilization. Therefore, we respectfully request this committee to include $400,000 for the Narrows Unit, Colorado in its recommendation for appropriations for fiscal year 1982.

Thank you for your time and for your consideration.

STATEMENT OF GARY FRIEHAUF, WATER FOR COLORADO, A CITIZENS' COMMITTEE, INC.

I am Gary Friehauf, a member of the Board of Directors of Water for Colorado, A Citizens' Committee, Inc. It is an independent, nonprofit, nonpartisan organization formed in 1975 to work for adequate, high-quality water, at a reasonable cost, to meet the needs of this and future generations of Coloradans.

It is Water for Colorado's position that the Animas-La Plata, Fruitland Mesa, Savery-Pot Hook and Narrows Projects should have been construction funded in Fiscal Year 1981. With the exception of Animas-La Plata, all of those projects had been on the White House's "hit list."

And of course they weren't funded, even in a time when money was flowing freely in Washington.

Today we find ourselves in an entirely different national posture. Once more we have a President and an Interior Secretary who understand what a great national investment water and power projects are, but who also must ask nearly every sector of the Federal government to make cutbacks.

Water for Colorado does believe that some reclamation projects should be included in the cutbacks. But only for a time.

Without question, stabilizing the U.S. economy is absolutely essential to the maintenance of the quality of life which we enjoy. Thus, short-term constraints in the funding of construction starts of the four reservoirs referred to certainly can be justified.

However, another national mandate will come into play in a year or two -- development of Colorado's enormous oil shale resources to supplement our domestic petroleum production and gradually replace interruptible and increasingly-expensive foreign crude oil in the nation's energy inventory.

Without a significant synthetic fuels industry in Colorado, and further development of our coal resources, the nation faces energy shortages, further assaults on the integrity of our national economy and deterioration of our quality of life.

And, without those four reservoirs, Colorado will be hard pressed to provide for the water needs of the emerging energy industry.

In the context of Fiscal Year 1982 funding, Water for Colorado believes that Congress should not only fund two ongoing Water and Power Resources Service Projects -- Dallas Creek and Dolores -- but also seek on the order of a half million dollars for The Narrows Unit.

While Narrows is located in northeast Colorado, far from the oil shale deposits and the seams of low-sulfur bituminous coal of Colorado, it would play a major role in meeting needs of a burgeoning energy industry in Colorado, in addition to its primary purpose of providing supplemental irrigation water to increase the state's food and fiber production.

That's because the Denver metropolitan area will experience far more growth, as a result of the energy industry expansion, than will even the Western Colorado oil shale and coal production areas.

Metropolitan Denver rapidly is becoming the national headquarters for the coal and synthetic fuels industries, as well as their principal transportation and supply center. And Narrows, while it is downstream on the South Platte River from Denver, will provide better management of the water in the basin, from headwaters to the Nebraska State Line. Without question, Narrows will be important to the quality of life in metropolitan Denver. There is a growing shortage of warm-water recreation in eastern Colorado, and Narrows would become the largest such facility in the state.

Narrows isn't relatively more important to the state of Colorado than are Animas-La Plata, Fruitland Mesa and Savery-Pot Hook, in our view. But we do believe that Congress should give Narrows a somewhat higher priority in Fiscal Year 1982.

Narrows was, to all intents and purposes, a project under construction when the Hit List hit. Land had been taken. Railroad relocation was about to happen. Twelve million dollars actually had been appropriated for the construction phase. We feel that at least token recognition should be made of that fact in the Fiscal Year 1982 appropriations.

A word about the future. Water for Colorado is urging the state of Colorado and its delegation in the House and Senate to begin preparing for an all-out campaign to obtain construction start money for Fruitland Mesa, Savery-Pot Hook and Animas-La Plata in Fiscal Year 1983.

In 1968 the Colorado River Basin states successfully urged Congress to pass what was supposed to be the final phase of the harnessing of the Colorado River -- the Colorado River Basin Act of 1968.

Because Arizona seemingly had a more pressing need, the Central Arizona Project -- by common consent -- came first, chronologically. And, indeed, the Central Arizona Project is nearing completion. But thanks to the aforementioned Hit List, three of Colorado's five projects authorized by the Act were put into limbo.

It is my position that, even 13 years later, the parties to the 1968 coalition -- or their political heirs -- can and should make good on Colorado's end of the deal.

Surely, by Fiscal Year 1983, the nation's economy will have stabilized enough to allow the investment in completion of those three projects.

STATEMENT OF CENTRAL COLORADO WATER CONSERVANCY DISTRICT

It is a great privilege for the Central Colorado Water Conservancy District to submit this written statement in support of the Narrows Unit of the Pick - Sloan Missouri Basin Program, South Platte Division, Colorado. Additionally, on this date oral testimony summerizing the needs of the local people, whom we represent, and the State's position have been presented to the Subcommittee.

The Narrows Project remains an essential factor in meeting the water needs of the South Platte River Basin. Our request of this committee for fiscal year 1982 is an appropriation of $400,000.00. The purpose of these funds would be to reinitiate activities concerning the project.

We submit today that the project is needed much more now than it ever has been. In submitting this statement, we respectfully implore each committee member to consider the regional differences between the needs of semi-arid Colorado and other areas of our country.

The Narrows Project becomes more important to our area daily because the needs of the region are changing so quickly. Narrows is now a project for all the people of the eastern slope; farmer and urbanite alike.

How can the Narrows Improve Regional Agriculture? Besides the many and varied benefits of a large multi-use project, Narrows will contribute greatly to existing agriculture. But, according to the study Agricultural Land Conversion in Colorado, published by the Colorado Department of Agriculture, "Renewable irrigated acreage served by renewable water supplies is no higher now than it was in 1959." And, "2/3 the value of all Colorado crops is based upon irrigation." The Narrows project would provide 'security through storage' to existing producers while opening new lands to production.

Also mentioned in the study, "Eighteen percent of Colorado's current irrigated acreage (503,000 acres) depends upon nonrenewable groundwater. Most of this acreage (406,000 acres) is located in the eastern high plains above the Ogallala aquifer." It should come as no surprise that falling water tables are endangering the production of this area.

We submit that recharge of the Ogallala or surface water deliveries is possible with South Platte River water, but impossible without large scale storage (Narrows).

How can Narrows Aid in Orderly Population Growth? Our current population of 2.7 million is growing at an annual rate of 2.75 percent --- nearly three times the national rate. According to a recent study by the Department of Housing and Urban Development, "Front range population is expected to increase by one million residents by the year 2000. This growth will require an additional 200,000 housing units between 1985 and 2000."

Clearly, these new residents will need water. Rather than the present practice of cities acquiring senior agricultural water rights for human consumption, new and dynamic practices of sharing our water resources will come forth, if there is storage!

The Narrows Project, over time, will develop a tremendous volume of water which can be shared by urban and rural water users, through orderly and accepted exchange procedures.

Today, we ask for the help of the Federal Government to fund this incredibly important project.

Local financial support is a part of the Narrows Project financing. Local front-end money has been a part of Narrows planning and design studies since the formation of this District in 1965. The taxpayers of the area have been financially supporting this project through their taxes. They have demonstrated further support through the willingness to contract with the United States for repayment of the project's costs as prescribed in the acts of this Congress. The District has a contract to pay the United States Treasury almost $91,000.00 per year for our apportioned share.

Greater payments will be made to the United States as the values of the agricultural commodities change. The water service contract meets the administration's objectives in the area of repayment also. The repayment escalator clause assures that the United States will receive a fair payment on their wise investment.

Colorado strongly supports the Narrows Project. The Narrows again became the number one priority for construction of the Colorado Water Conservation Board. The Governor and the State Legislature have recognized the increasing importance of the development of the water resources in meeting the demands placed on Colorado by the energy crises, food production, foreign exchange of agricultural commodities, and others, such as gasohol proposals. To meet these demands of Colorado State Legislature is in the process of establishing a fund to meet the financial requirements for the development of Colorado's water resources. Monies would be available from this fund to meet the state's share of the construction costs for future federal projects and other purposes.

Over the past years we have enjoyed the opportunities to present to this committee, myriads of facts and information outlining the need for the Narrows. Now, new efforts designed to develop and receive mutually beneficial use from Colorado resources enter into the picture. For example, a program designed to take agricultural water, place it in municipal use, then treat that water and return it to agricultural systems, is facing public opposition. You may ask why such a farsighted program would be opposed. We submit that the lack of storage facility such as the Narrows makes this type of program almost impossible. Agricultural water users must be assured of storage facilities.

At this point we raise the question of the contract as it represents the honor and word of the United States Government. As earlier mentioned, this sponsoring District executed a repayment contract with the Secretary of the Interior, on July 27, 1976. Since the initiation of the most recent activities on the Narrows in 1958, the people of the South Platte Valley have held this engagement with the Department of Interior to be one of honor and good faith. The contract representing the good faith of the United States to pursue the completion of the Narrows Unit. Throughout the intervening 23 years we have complied with the laws of this honorable Congress and every mandate of successive Presidents from John F. Kennedy. We have consented to demands for changes by federal agencies. Many of which did not benefit the water user but which increased the project cost for the water users. There have been no major changes in reclamation law to date. Yet, we are kept from achieving this valid goal. The people have spent years of time, hundreds of thousands of dollars, and have made the contractual commitments. We submit that the actions of the current administration suggests that this contract, the word of the United States, is meaningless.

Our appeal to this committee for funding includes an appeal that the contract and the word of the United States be restored to an elevation of honor and meaningfullness.

Energy is the most critical issue in this country today, Denver, Colorado is being looked upon as the energy capital of the country. The United States must take progressive and immediate action to eliminate our dependency upon foreign energy. This means development of goal and oil shale. Denver will be the hub of this essential development. The increase in population is going to have a major impact on the "normal" or "base" water supply of our area. This places further importance on the ability to capture the more unusual flows of large volume.

In summary, we appeal to Congress to:

a) Appropriate $400,000.00 for the reinitiation of construction activities on the Narrows Project for FY-1982.

The attention of the members of this committee is greatly appreciated.

Thank you.

Letter From State Senator Maurice A. Kremer of Nebraska

March 19, 1981

The Honorable Mark Hatfield, Chairperson
Committee on Appropriations
U.S. Senate
1322 Dirksen Office Building
Washington, D.C. 20515

Dear Senator Hatfield:

The enclosed resolution passed our Legislature with a 31-2 vote March 18, and puts Nebraska in direct support of the Colorado Narrows Project.

The need for flood control on the South Platte River has been apparent for many years as flood waters pass through our State unused and unusable. Capturing these flood waters for release in usable quantities is absolutely necessary as demands for water continue to increase in both Nebraska and Colorado.

Narrows water used for irrigation along the South Platte in Colorado will also beef up return flows to the river, thus giving Nebraska a better base flow of good quality water.

With this support, it is our hope that the Water and Power Resources Service will allow Nebraska, through its Department of Water Resources, to participate in establishing operating criteria for the Narrows Reservoir with the thought of obtaining maximum use of the water for both states.

Your support of the Narrows Project is urgently requested.

Sincerely yours,

Senator Maurice A. Kremer
Chairman, Public Works Committee

LEGISLATURE OF NEBRASKA
EIGHTY-SEVENTH LEGISLATURE
FIRST SESSION

LEGISLATIVE RESOLUTION 26

Introduced by Public Works Committee, Kremer, 34th, Chpn.; Beutler, 28th; Wesely, 26th; Clark, 47th; Koch, 12th; Lamb, 43rd; Hoagland, 6th; DeCamp, 40th

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WHEREAS, the Narrows Project on the South Platte River in Colorado is currently being considered for supplemental appropriations by Congress; and

WHEREAS, the Narrows Project on the South Platte River near Ft. Morgan, Colorado is authorized for construction by the Water and Power Resources Service; and

WHEREAS, this project is designed with a flood control capacity of 475,000 acre feet with an operating criteria of a maximum release of 5,000 cubic feet per second when storage is in the flood pool; and

WHEREAS, this project will provide supplemental water for several users along the South Platte River in Colorado thus increasing return flows to the river in Colorado and into Nebraska benefiting downstream Nebraska interests; and

WHEREAS, there are several other alternative projects proposed in Colorado which provide no Nebraska benefits since they would not offer flood control and could reduce rather than increase return flows into Nebraska.

NOW, THEREFORE, BE IT RESOLVED BY THE MEMBERS OF THE EIGHTY-SEVENTH LEGISLATURE OF NEBRASKA, FIRST SESSION:

That this legislative body urge the Appropriation Committees of the United States Senate and House of Representatives to provide the funds necessary to begin this long delayed, but Congressionally approved project.

PRESIDENT OF THE LEGISLATURE

I, Patrick J. O'Donnell, hereby certify that the foregoing is a true and correct copy of Legislative Resolution 26, which was passed by the Legislature of Nebraska in Eighty-seventh Legislature, First Session, on the eighteenth day of March, 1981.

CLERK OF THE LEGISLATURE

STATEMENT OF FRED V. KROEGER, CHAIRMAN, SOUTHWESTERN WATER CONSERVATION DISTRICT OF COLORADO

Senator STENNIS. Who is next?

Mr. MCDONALD. I would like to introduce Mr. Fred Kroeger.

Mr. KROEGER. Our testimony has been submitted and I am going to be very brief. The Animas-La Plata project, which I represent, we are ready to go. We have our final report completed and reviewed. The EIS is completed and reviewed. And the money that we receive, $2.87 million, we have determined to be only 3 cents out of $7,000 that is spent this year in the Federal budget and we hope you will be able to find that. It is a very unique project, multipurpose. It involves two Indian tribes, two States, municipal, industrial, and domestic water, and we hope you will give it every consideration.

Thank you.

[The statement follows:]

STATEMENT OF FRED V. KROEGER, CHAIRMAN, SOUTHWESTERN WATER CONSERVATION DISTRICT OF COLORADO

I am Fred Kroeger from Durango, Colorado, and I serve as Chairman of the Southwestern Water Conservation District, which is made up of nine counties in Southwest Colorado. On several occasions during past years I have had the privilege of appearing before this committee, and am pleased to be here once again. I am here to express our appreciation and concurrence with the administration's request of $43,586,000.00 in construction funds for the Dolores Project and to request 2.87 million dollars in initial construction funds for the Animas-La Plata Project. Additionally I am here to support continued funding and study for the San Miguel Water Reclamation Project as requested by the Colorado Water Conservation Board.

The Dolores Project is entering its second year of construction, and upon completion it will provide a vitally needed water supply for the Ute Mountain Ute Indian Tribe, the agricultural community of the Dolores region, and the communities of Cortez, Dolores and Towoac. In addition, the Dolores Project will provide Southwestern Colorado with a recreational lake with a surface area of approximately 4500 acres. The water from the Dolores Project will irrigate 34,000 acres of dryland farms of which nearly one-fourth is owned by the Ute Mountain Ute Indians. 26,000 acres of land presently under irrigation will also be served by the Dolores Project. The administration's recommendation for construction funds is a recognition of the value of the Dolores Project to the Southwestern region of the country and we urge that funding be approved.

Our second request involves the Animas-La Plata Project which will serve an area located in La Plata County, Colorado, and San Juan County, New Mexico. Last week the Colorado District Court for the Sixth Judicial District appointed a board of directors for the Animas-La Plata Water Conservancy District, thus completing the district formation process; and we expect that a repayment contract for the project will be approved by the fall of 1981. The Animas-La Plata Project was initially envisioned by homesteaders some eighty years ago. Within the last year the final project plan and the Environmental Impact Statement have been accepted and the Project is ready for construction. The Project has been designed over the years to fulfill the needs of many interests and entities in Southwestern Colorado and Northern New Mexico and merits funding.

The Animas-La Plata Project will supply domestic water for Durango, Hesperus, three domestic water districts in Colorado, as well as Aztec, Bloomfield, Shiprock and Farmington, New Mexico. Existing domestic water supplies are inadequate to meet the projected growth in population which will occur in this area over the next forty years. The project will provide water to the Ute Mountain Ute Indian Tribe and the Southern Ute Indian Tribe. Through a process of cooperation we have negotiated allocations for each of the Indian tribes mentioned, and they continue to support this project because it will benefit all residents of the region. If the Animas-La Plata Project is not constructed, however, Indian water claims could conceivably impair senior water rights along the Animas River and use the entire flow of the La Plata River. Both our Indian neighbors and non-Indian land owners feel it gravely important that our friendship continue through the construction of the Animas-La Plata Project.

After completion of the project approximately 70,000 acres of fertile lands, 61,000 acres in Colorado and 9,000 in New Mexico, will receive the benefit of agricultural irrigation. The anticipated benefit of the Project to the local economy is estimated to be an additional 26 million dollars a year.

During the process of requesting funds for the Animas-La Plata Project this committee has over the years received the continuous endorsement of almost every governmental and civic organization in the Four Corners Region. This committee would be hard pressed to find a more worthwhile project and we request 2.87 million dollars in order to commence construction of the project.

My final request deals with the San Miguel Water Reclamation Project. In 1968 the Congress, in order to coordinate the expectations of water users in the western United States, authorized the construction of several water projects affecting the citizens of Arizona, California, New Mexico, Colorado and Utah. The San Miguel was one of Colorado's water projects to be built concurrently with the Central Arizona Project. At that time, benefits of the project were sufficient to justify its construction. In the intervening period of escalating construction costs, penalty assessments for salinity contribution, and the passage of regulatory impediments, the beneficiaries of the San Miguel Project have seen their expectations dwarfed by inaction. At the present time, although the needs and benefits of the project are the same as in 1968, the congressional compromise of 1968 has not been carried out. In the meantime, however, construction of salinity control projects in the Paradox Valley have progressed. Even though the funds expended for project construction would be repaid from Colorado River Storage Project funds and from repayment contract funds, the construction of the San Miguel Project now appears to be permanently threatened. The Southwestern Water Conservation Board firmly supports the Colorado Water Conservation Board's funding request to make the San Miguel Project viable.

In conclusion, I would reiterate a theme which this committee has undoubtedly heard many times: Without proper conservation, our nation's water supplies will eventually become inadequate. Continued funding for the construction of the Dolores Project, the Animas-La Plata Project and the San Miguel Project would be a long awaited exercise in foresight, foresight which this nation can ill afford to ignore.

ADDITIONAL PREPARED STATEMENTS

Senator STENNIS. Thank you very kindly. You have some good projects here.

We all have several other statements on these projects that you have submitted that I will make part of the record at this point.

[The statements follow:]

STATEMENT OF THE COLORADO RIVER WATER CONSERVATION DISTRICT

The Colorado River Water Conservation District (the River District) is the primary Western Colorado water policy body and included within its boundaries are the main stem of the Colorado River and its principal tributaries the Yampa, the White and the Gunnison Rivers. These streams provide approximately 65% of the calculated undepleted flow of the Colorado River at Lee Ferry, Arizona, the dividing point between the Upper and Lower Colorado River Basins. The District is shown on the attached map.

Included within the District's boundaries are all of Colorado's oil shale deposits, which are variously estimated to be about 80% of the nation's oil shale reserves, and a high percentage of the state's economically viable coal. However, the application of water to beneficial use in irrigation agriculture and the use of water in energy resources development in Northwest Colorado are so closely tied as to be inseparable. Irrigated agriculture has historically been and will continue to be a critical component of the economies of Northwest Colorado and the Colorado River Basin, and irrigation agriculture will continue to be a significant contributor to food production for the benefit of the entire nation. For many years the nation has had a policy of encouraging food production so as to result in low prices to the consumer. Until recently, the nation has also had a low cost energy policy. Water resources as related to both energy and agriculture production is of vital concern to Northwest Colorado, the Colorado River Basin and the nation. Without the construction of additional water resources facilities in Northwestern Colorado the energy industry will have only one water source and that source is agricultural water with very early priority dates. Productive agricultural land will dry-up and go out of production. New storage must be constructed to help supply water for the energy development now coming on line as well as the associated increase in municipal requirements.

Historically the Sub-Committee, the Committee and the Congress have received requests from many water resources agencies and groups for specific appropriations for the construction of irrigation and other water conservation projects. This year our statement is a departure from the historic in that we recognize and concur with the Administration policy and the Congressional policy concerning new starts in FY 1982 and we are not making specific requests for appropriation by the Committee and the Congress, although we will make specific requests next fiscal year. However, we do request the Committee's support in other vital arenas this year. Our first request involves projects authorized by the Congress in the Colorado River Basin Act of 1968 (PL 90-537).

The 1968 Act authorized the construction of the Central Arizona Project and further in V, Section 501 (b) we find language addressing the construction of water resources projects in Western Colorado.

> "The Secretary is directed to proceed as nearly as practicable with construction of the Animas-La Plata, Dolores, Dallas Creek West Divide, and San Miguel participating Federal reclamation projects concurrently with the construction of the Central Arizona Project, to the end that such projects shall be completed not later than the date of the first delivery of water from said Central Arizona Project: Provided, That an appropriate repayment contract for each of said participating projects shall have been executed as provided in Section 4 of the Colorado River Storage Project Act (70 Stat. 197) before construction shall start on that particular project."

At this time the Dolores and Dallas Creek projects are under construction in Western Colorado. The Water & Power Resources Service (formerly the Bureau of Reclamation) has stated that water will be delivered on the Central Arizona Project in 1985. Water & Power Resources Service has further issued a concluding report on the West Divide and San Miguel Projects based partly on the allegation that the benefit - cost ratios are less than unity. However, the Congress did not mandate a benefit -

cost ratio of any kind. We ask the Committee's support and recommendation to the Congress that in light of water requirements for energy resources development and the continued production of food and fiber by irrigated agriculture that the Secretary of Interior be instructed to proceed with the construction of all five Western Colorado projects so that the charge in 501 (b) ". . . to the end that such projects shall be completed no later than the date of the first delivery of water from said Central Arizona Project" is met.

The Colorado River Storage Project Act of 1956 (PL 485 - 84th Congress) established in Section 5 the Upper Colorado River Basin Fund and the intent of this fund, as the Sub-Committee is so well aware, is to help finance the construction of water conservation projects in the Upper Colorado River Basin.

As a result of the credits to the fund created by the sale of hydroelectric energy generated at the storage project reservoirs the construction of those projects set forth in the Colorado River Storage Project Act and the Colorado River Basin Project Act are almost wholly self-financed and do not impact the Treasury. We request that the Committee report their approval of the utilization of the Basin Fund for those purposes and projects set forth in PL 485 - 84th Congress and PL 90 - 537 directly and/or by the means of the collateralization of the credits to the Basin Fund so those credits may be utilized in association with private funds for the financing of construction of all or selected projects listed in the two acts. We request further that the Committee favorably consider similarly making available the credits to the reclamation fund under the Federal Mineral Leasing Act of 1920.

The second major issue we request the Committee address involves existing major statutes now being applied in ways adverse to water resource conservation. These are some of the major "environmental" legislation enacted by the Congress in a well-intended effort to right real and perceived environmental wrongs. However, several of these statutes and their associated regulations are being interpreted by some advocates including many in the overly aggressive bureaucracy to enforce personal bias against water storage and conservation, especially in the Colorado River Basin. We request that the Sub-Committee consider in the short-term revision of the rules and regulations associated with selected of the Acts and in the long term revision of the Acts themselves. These Acts include, but are not necessarily limited to:

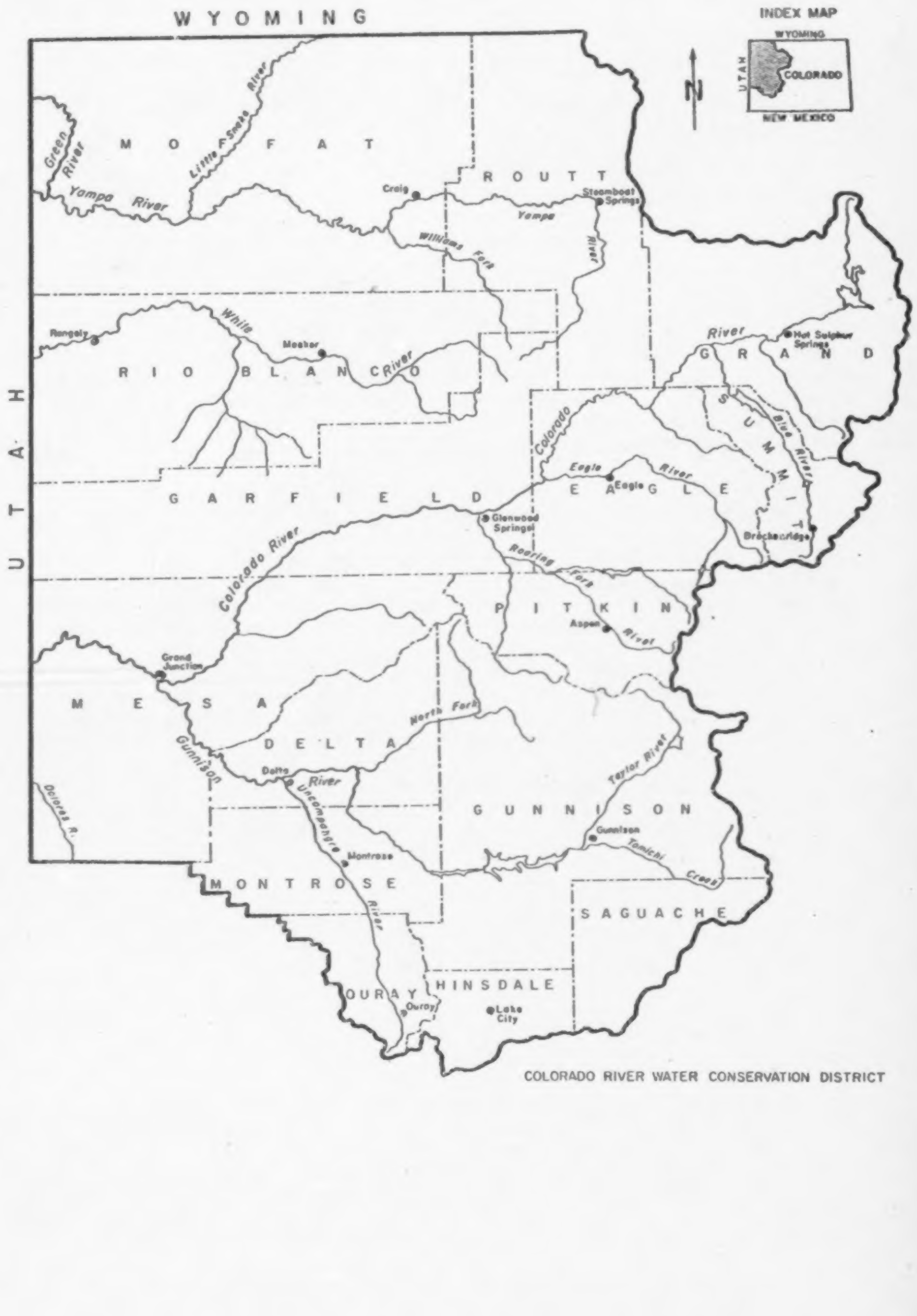
Endangered Species Act as amended
Wild and Scenic Rivers Act
Federal Land Policy and Management Act
Clean Water Act (PL 92-500)

The River District is presently working to construct two energy-related, self-financing water conservation and storage projects in Northwestern Colorado. The Rangely Reservoir on the White River will create the first reliable municipal water supply in the history of the Town of Rangely which is close to oil shale operations on both Colorado oil shale tracts (Federal leases Ca and Cb). The people (fewer than 2,000) of Rangely and a portion of Rio Blanco County approved by a margin of over 10-to-1 a debt of $13,000,000 to construct the reservoir. The Juniper-Cross Mountain Project on the Yampa River is pending on license application before the Federal Energy Regulatory Commission. This project will generate the energy equivalent of 600,000 barrels of oil or 158,000 tons of coal per year and supply water for agricultural, municipal and industrial purposes (both direct and by exchange). It will provide much-needed recreation for the entire region, but especially for near-by Craig, Colorado which is heavily impacted by energy development. The Juniper-Cross Mountain Project will be financed by revenue bonds.

There will be no Congressional or state appropriated funds involved in the construction of either of these projects. But the above-cited Congressional Acts and associated regulations are being mis-applied by over-zealous bureaucrats and special interest intervenors in attempts to prevent the construction of these vital facilities.

We request the Sub-Committee, the full Committee and the United States Congress give early consideration to the sensible revision of the regulations promulgated under the above Acts to the end that water conservation facilities can be built to help meet the agricultural and energy water needs of Northwestern Colorado and the nation.

Thank you for the opportunity to comment.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Green River
Little Snake River
Yampa River
Craig
Steamboat Springs
Yampa River
Williams Fork
Rangely
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Meeker
River
Hot Sulphur Springs
Colorado
Blue River
Eagle River
Eagle
Glenwood Springs
Breckenridge
Colorado River
Roaring Fork River
Aspen
Grand Junction
North Fork
Gunnison River
Delta
Uncompahgre River
Dolores R.
Taylor River
Gunnison
Tomichi Creek
Montrose
Ouray
Lake City

COLORADO RIVER WATER CONSERVATION DISTRICT

Statement of F. F. Montoya, Chairman, La Plata Conservancy District

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE. MY NAME IS F.F. MONTOYA FROM LA PLATA, NEW MEXICO AND I SERVE AS CHAIRMAN FOR THE LA PLATA CONCERVANCY DISTRICT IN NEW MEXICO.

THE ANIMAS-LA PLATA PROJECT WOULD REGULATE FLOWS OF THE ANIMAS AND LA PLATA RIVERS FOR IRRIGATION AND MUNICIPAL AND INDUSTRIAL USE. WE WOULD NO LONGER HAVE THE COSTLY JOB OF REPLACING OUR DIVERSION DAMS AND IRRIGATION DITCHES THAT PERIODICALLY WASH OUT BY FLASH FLOODS FROM SUDDEN STORMS AND OCCASIONAL FLOOD FROM SPRING RUN OFF. IT WOULD ALSO PROVIDE FISH AND WILDLIFE MEASURES, RECREATION FACILITIES, A CULTURAL RESOURCES PROGRAM, AND AREA REDEVELOPMENT. SERVICES WOULD BE PROVIDED TO THE LA PLATA WATER CONCERVANCY DISTRICT IN COLORADO AND THE DISTRICT IN NEW MEXICO, PLUS MUNICIPAL AND INDUSTRIAL WATER FOR THE CITIES OF AZTEC, BLOOMFIELD AND FARMINCTON IN NEW MEXICO, AND THE UTE MOUNTAIN TRIBE IN COLORADO. INSTEAD OF PEOPLE LEAVING THE LAND TO LOOK FOR WORK IN OVER-POPULATED CITIES WITH UNEMPLOYMENT ON THE RISE, THE PROJECT WOULD ALSO CREATE JOBS.

WE COULD SUBSTANTIALLY INCREASE FARM INCOME BY PARTICIPATING IN INTENSIFIED FARMING AND PRODUCE SEVERAL TIMES AS MUCH GROSS INCOME AS WE DO TODAY.

WE HAVE LOOKED FORWARD TO THE ADDITIONAL IRRITATION WATER WHICH WOULD BE SUPPLIED BY THE ANIMAS-LA PLATA PROJECT TO 8,630 ACRES OF LAND IN NEW MEXICO. WATER WOULD BE AVAILABLE FOR THE CONVERSION OF OUR COAL SUPPLY INTO ELECTRICAL POWER.

I AM NOT JUST SPEAKING FOR MYSELF OR THE FARMERS IN MY CONSERVANCY DISTRICT WHEN I ASK FOR THE SUPPORT OF THE APPROPRIATION OF 2.87 MILLION TO START CONSTRUCTION OF THE ANIMAS-LA PLATA PROJECT, BUT FOR THE INITIATION OF A PROJECT THAT WILL BENEFIT THIS NATION.

I HOPE WE HAVE REACHED THE END OF NUMEROUS DELAYS WE HAVE FACED IN SECURING FUNDING FOR THIS PROJECT WHICH WOULD ENHANCE THE ECONOMY OF OUR GREAT COUNTRY.

MR. CHAIRMAN THANK YOU FOR ALLOWING ME TO BE HERE TODAY TO PRESENT THIS STATEMENT ON BEHALF OF THE ANIMAS-LA PLATA PROJECT.

STATEMENT OF CHRIS A. BAKER, VICE CHAIRMAN, SOUTHERN UTE INDIAN TRIBE

My name is Chris A. Baker, and I am Vice-Chairman of the Southern Ute Indian Tribe. I am appearing before you on behalf of the Southern Ute Indian people to request the appropriation of 2.87 million dollars in construction funds for the Animas-La Plata Project.

On many occasions the leaders of the Southern Ute Indian Tribe have been before this committee to support the Animas-La Plata Project. Historically the Ute people and the culture have survived despite numerous hardships, including: The gold rush in the San Juan mountains; the homesteading process; the allotment of Indian lands; the division of the Ute tribes; and the threat of termination. One hundred years ago our people agreed to live cooperatively with the people of the United States in exchange for the right to continue our way of life. While others around us have prospered and flourished, the Southern Ute people have higher rates of unemployment, illness, and poverty than do our Indian neighbors.

The Southern Ute Indian Tribe has made great efforts to maintain its existence. Our tribe was one of the first to send our children to public schools because we recognized the need for education in this society. Our land use, social service, and wildlife programs are recognized by our non-Indian neighbors as some of the best in our region. Without a strong economic base; however, the Southern Ute Indian Tribe will never have the advantages needed to keep our community strong.

The nation's need for energy provides us with an opportunity to become economically self-sufficent. Our lands contain an abundance of natural gas and coal which, with an adequate supply of water, can be developed. Tribal members will have the chance to develop skills and get jobs. Sufficient agricultural, domestic, and industrial water needed for our health and economic stability is allocated to the Southern Ute Indian Tribe by the Animas-La Plata Project. In addition, our relatives in the Ute Mountain Ute Indian Tribe will receive waters which they sorely need for municipal and agricultural use.

Competition for water in our arid region is fierce, and for our protection, the Department of Justice has filed a lawsuit to determine our reserved rights. Even if we are legally successful, our use of the waters of the Animas and La Plata Rivers would deprive our non-Indian neighbors of water they need and use for agricultural and municipal use. Furthermore, there would still be a need for our tribe to develop water storage facilities.

By working together through the Animas-La Plata Project we can reduce the expense of separate facilities, and we can eliminate the hostilities and racial bitterness which have plagued us in the past. As residents of the Four Corners area, we have worked together to find an area-wide solution. The cooperative approach to solving problems, and the Animas-La Plata Project, which is the solution, should be given this committee's endorsement.

In the history of the Indian people agreements with the federal government have not always been honored, especially when we possess lands coveted by non-Indians. With federal assistance now, our future will be bright. Our future and the future of Southwest Colorado depend upon your support.

STATEMENT OF ERNEST HOUSE, TRIBAL COUNCIL MEMBER, UTE MOUNTAIN UTE INDIAN TRIBE

I am Ernest House of Towaoc, Colorado. I am a member of the Tribal Council of the Ute Mountain Ute Indian Tribe. I am here on behalf of the Ute Mountain Ute Indian people to support the administration's request for 43.58 million dollars in continued construction funds for the Dolores Project, and to request 2.87 million dollars in initial construction funds for the Animas-La Plata Project.

Our reservation lands are located in the driest part of Colorado. Our community depends upon a water supply which must be trucked to the reservation. The Dolores Project will provide us with domestic water and we will receive water to irrigate lands which cannot be farmed without water. The Dolores Project will give us the chance to eliminate the poverty which exists on our reservation, and will help us to stabilize our economy.

We also feel that it is vital for construction to begin on the Animas-La Plata Project. The Ute Mountain Ute people will receive irrigation water from the Animas-La Plata Project for the irrigation of 12,000 acres of farmland on the eastern portion of our reservation. The Animas-La Plata Project will also allow our brothers, the Southern Ute Indian Tribe, to develop a stable economy.

Indians are not the only persons who will benefit from the construction of the Dolores and Animas-La Plata Projects. Our neighbors' farms and towns in the Four Corners region will flourish. Because we all share a need for water in our region, we have cooperated in order to find the answers to our problems. Your investment in these two projects will benefit our children and grandchildren. The Ute Mountain Ute people seek your continued support for the sound development of our region.

STATEMENT OF BRICE LEE, MEMBER, BOARD OF DIRECTORS, SOUTH DURANGO WATER DISTRICT

I am Brice Lee and I am a member of the South Durango Water District Board of Directors. I am here to request that this committee recommend initial construction funds in the amount of 2.87 million dollars for the Animas-La Plata Project.

The South Durango Water District is a special district, outside of the City of Durango, which receives treated water from the city. In exchange for receiving treated water from the city we allow the city to utilize several of our early water rights from the Animas River. Two other special water districts also receive treated water from the City of Durango. Because of the layout of our community, the outlying special districts presently absorb and will continue to absorb most of our community's growth. At the present time the City of Durango does not have water storage sufficient to supply individuals who wish to live in our community. The Animas-La Plata Project will provide 8200 acre feet of water annually for municipal use in Durango and its outlying districts. Without that water, Durango will no longer be able to maintain the healthly rate of growth necessary for economic stability.

As a farmer I also understand the importance of the Animas-La Plata Project. Thousands of acres of land will receive the benefit of irrigation which at this time is sporadic or non-existent. The water in our streams next year is projected to range from 14% to 45% of average stream flows. During the history of Colorado, agriculture has served as the backbone of our state economy. Four generations of farmers in La Plata County have waited in line for a reclamation project in our area. The multi-purpose nature of the Animas-La Plata Project makes it a particularly worthwhile investment in the Four Corners region of our country.

In conclusion, I sincerely hope that this committee will recommend 2.87 million dollars in funding for the initial construction of the Animas-La Plata Project.

STATEMENT OF SHELDON SLADE, MEMBER, BOARD OF DIRECTORS, LA PLATA WATER CONSERVANCY DISTRICT

I am Sheldon Slade, a farmer in La Plata County, Colorado. I am also a member of the La Plata Water Conservancy District Board of Directors. I am here to request funding in the amount of 2.87 million dollars for initial construction of the Animas-La Plata Project. As a farmer on the dryside of La Plata County, I understand the importance of water. We have some of the best soil in the country, but the success of our crops is totally dependent upon our unstable water supply. During a dry year, a farmer can lose almost everything he puts into a dry farm. The bottom line is that farmers in the La Plata River drainage have for years recognized the need to store water in order to provide a water supply sufficient for effective irrigation.

Several conditions threaten the stability of our water in the La Plata Water Conservancy District. The most obvious factor is that of weather. In a March 1st report from the Soil Conservation Service of the U.S. Department of Agriculture, the following projections were made:

> Precipitation in Southwestern Colorado is projected to be 46% of the seasonal average.
>
> The La Plata River stream flow forecast is only 34% of the April-September average computed for years of 1963 through 1977.

The seriousness of this year's water problem is reflected by the Soil Conservation Service's conclusion that "a moderate to severe water shortage is anticipated for all streams." For farmers with no significant storage supplies, this year looks extremely bleak. In contrast, the Soil Conservation Service report states "Water users with stored water rights will be minimally impacted due to the above normal storage in reservoirs in both Colorado and New Mexico." The construction of the Animas-La Plata Project will eliminate the sporadic productivity of our lands, and increase crop yields by approximately 15 million dollars per year.

Without the project, farmers along the La Plata River face the threat of increased competitions for the water in our streams. Increased demands for water in New Mexico and the lower basin states of the Colorado River are a constant threat to the unstored waters of Colorado. If the Southern Ute Indian Tribe is successful in establishing the number one priority on the Animas and the La Plata Rivers, and if the Tribe is forced to exercise those rights, there will be little if any available water for agriculture in the La Plata County area. The requirements for domestic water supplies in Southwestern Colorado as well as increased interest in energy development requires the storage and equitable distribution of our most limited resource.

The Animas-La Plata Project will allow agriculture to remain an integral part of Southwestern Colorado, and the Project will fulfill the demands of others in Colorado and Northern New Mexico. I certainly hope that this Committee will recommend appropriations in the amount of 2.87 million dollars for the initial construction of the Animas-La Plata Project.

STATEMENT OF ROBERT S. CULPEPPER, MAYOR, FARMINGTON, N. MEX.

The City Council, which is the governing party of Farmington, have for a number of years enthusiastically supported the funding and construction of the Animas/LaPlata Water Project. As you are aware water is becoming more and more critical in New Mexico. At our present growth rate, the City of Farmington will require additional water rights (or supply) within the next 10 years. We feel that this is the best way to insure adequate water for Farmington's future development. In this instance Farmington's future water needs include the communities of LaPlata, Kirtland, Fruitland, a large part of Shiprock, and the area in between since we provide treated water to those areas.

The City of Farmington is strongly supporting this project. We would appreciate your strong support to alter the proposed Federal Budget to begin construction on the Animas/LaPlata Project. It is the most important project for this area since the Navajo Irrigation Project was begun.

If we can be of any assistance to you in accomplishing this, please do not hesitate to advise us.

STATEMENT OF R. T. SCOTT, COUNTY COMMISSIONER, LA PLATA COUNTY, COLO.

I am R. T. Scott from La Plata County, Colorado. I serve as County Commissioner for La Plata County, Colorado, and I am here to present our County's request that 2.87 million dollars for initial construction funds be appropriated for the Animas-La Plata Project.

For many years the residents of La Plata County have worked hard to see the Animas-La Plata Project constructed. Citizens' committees made up of people with varied backgrounds and interests have seen the Project as a solution to the inadequate, unstable water supplies upon which our communities' futures depend.

As a part of Western Colorado, we recognize the need to prepare for future impacts from energy development in our region. We have always felt that a viable agriculture economy is necessary to preserve the stability of our area. The Animas-La Plata Project is the only water conservation project which is capable of meeting the ever-increasing demands placed upon our part of the country.

Within our county, the Animas-La Plata Project will store 8,200 acre feet for the City of Durango. An additional 1,000 acre feet of water has been allocated for rural domestic use in La Plata County. Over 60,000 acres of Indian and non-Indian lands within Southwestern Colorado will be irrigated by this project. The Southern Ute Indian Tribe has been allocated 26,000 acre feet for municipal and industrial use which will give the Southern Ute Indian Tribe the option to develop their coal resources and significantly contribute to our region's economy.

In past years, the County Commissioners for La Plata County presented this Committee with resolutions expressing the County's commitment to the Project's construction. Once again, the La Plata County Commissioners are delivering a resolution supporting our request for initial construction funds in the amount of 2.87 million dollars for the Animas-La Plata Project. Not only our dreams, but the very future of Southwestern Colorado turns in large part upon the construction of the Animas-La Plata Project.

RESOLUTION NO. 1981-11

WHEREAS, the Board of La Plata County Commissioners was elected to safeguard the health and welfare of all residents of La Plata County, Colorado; and,

WHEREAS, the population of La Plata County has increased almost 50% in the last ten (10) years; and,

WHEREAS, population growth pressure is rapidly increasing in all areas of the County; and,

WHEREAS, agriculture production is the only aspect of La Plata County's economic base which guarantees self-sufficiency; and,

WHEREAS, the Animas-La Plata Project would supply water, which would otherwise be lost, for both domestic and agricultural use; and,

WHEREAS, storage of water and use of the Animas watershed in the La Plata drainage has been a dream of our forebears in order to preserve the future of generations to come; and,

WHEREAS, the Animas-La Plata Project was certified in 1968 as a part of the Colorado River Project.

NOW, THEREFORE, BE IT RESOLVED that the La Plata County Commissioners find as follows:

1. That construction of the Animas-La Plata Project is imperative to the health and welfare of all residents of La Plata County, including our Indian neighbors;
2. That delay of construction of the Animas-La Plata Project has been devastating and expensive and further delay will only exacerbate the problem;
3. That initial construction funds of 2.87 million dollars be released for this most worthwhile project.

DONE AND ADOPTED in Durango, Colorado, this 18th day of March, 1981.

BOARD OF COUNTY COMMISSIONERS
LA PLATA COUNTY, COLORADO

R.T. Scott, Chairman

Sara Duncan
Sara Duncan, Vice-Chairman

Don E. Michael
Don Michael, Commissioner

(SEAL)

STATEMENT OF KATHLEEN A. RAMSEY, MAYOR, AZTEC, N. MEX.

The City of Aztec has supported the Animas-La Plata Project from its inception. Now that the matter is being considered for appropriation I want to urge favorable consideration by the congress.

It appears that this coming summer will see drought conditions in the San Juan River Basin. The other New Mexico municipalities dependent on this water resource have emergency solutions available to them, but the City of Aztec is totally dependent on the Animas River for its domestic supply. We have only a three day raw water storage capability, and if the run-off is at the predicted level, the city could be in dire straits. The need for the Animas-La Plata storage is urgent for us and we strongly request your support. The long-range implications of this project for this area are of the utmost importance.

STATEMENT OF ALLEN J. MURDOCK, CHAIRMAN, DURANGO (COLO.) CITY WATER COMMISSION

I am Allen J. Murdock, Chairman of the Durango City Water Commission, and I am here to request 2.87 million dollars in new construction funds for the Animas-La Plata Project. The organization which I represent is a special City commission which examines specific and general water related issues which involve the City of Durango.

The City of Durango's water rights and water storage capacity are inadequate to serve the increased population which our region attracts. The City is obligated to provide treated water to its residents and to the residents of three outlying water districts. We have taken major steps to conserve our water supply by installing water meters, increasing water rates, and scheduling outside lawn irrigation. These efforts can do little to increase a present water storage capacity which is capable of providing domestic water for only six days' use. In the event that we experience an extremely dry year or in the event that our supplies are further depleted by Indian water rights, we will be up a creek without any water.

After studying numerous alternatives, our Commission is convinced that the Animas-La Plata Project will fulfill not only our municipality's needs, but many of the needs of our region. The success of our farmers in La Plata County will continue to be a vital aspect of our city's economy. On behalf of our Commission and the City of Durango, I renew the request we made last year, and I sincerely hope that this Committee will recommend the appropriation of 2.87 million dollars in initial construction funds for the Animas-La Plata Project.

STATEMENT OF ROBERT E. KARLIN, CHAIRMAN, SAN JUAN COUNTY, N. MEX.

San Juan County, N. Mex., again appreciates an opportunity to express support for appropriation of funds to start construction of the Animas-La Plata project. Testimony has been presented many times over the last two and a half decades outlining our needs for additional water which this project would supply to our arid region.

We support the statement given by F. F. Montoya, Chairman of the La Plata Water conservancy District in New Mexico. The additional 16,000 acre-feet provided by the project to assure a stable irrigation supply to 8,360 acres of land in our county would be a great benefit to the local economy.

The rapid increase of exploitation of energy resources; oil, gas, coal, and uranium, has led to unexpected population growth which makes necessary additional supplies of municipal and industrial water. In addition to the four municipal growth centers of Aztec, Bloomfield, Farmington, and Shiprock, we have nine rural water systems which can barely keep up with accelerated demands. If the Animas-La Plata project should begin construction tomorrow, the 38,400 acre-feet of municipal and industrial water which it would make available to us could be put to beneficial use.

STATEMENT OF DAVID D. HERRICK, MEMBER, BOARD OF DIRECTORS, DOLORES WATER CONSERVANCY DISTRICT

I am David Herrick from Cortez, Colorado. I am a member of the Dolores Water Conservancy District Board of Directors. The Dolores Water Conservancy District requests that you support the administration's recommendation that the Dolores Project receive continued funding for construction in the amount of $43,586,000.00.

The completion of the Dolores Project is vital to the future of Southwestern Colorado. It will irrigate approximately 60,000 acres of farmland, and it will provide reliable domestic water supplies for the communities of Cortez, Dolores, and Towaoc. Initial construction of the project has progressed smoothly, in fact, we are presently several months ahead of schedule. Only through continued funding can we maintain the progress which we have made.

We are all aware that the federal budget needs trimming. The administration's request which you are now considering for the Dolores Project is significantly less than that recommended by the Water and Power Resources Service. Although we would certainly be pleased if the appropriation for the Dolores Project was larger than we have requested, we are not unmindful of the need for all of us to tighten our belts. We would merely ask that budget cuts be done evenhandedly and that worthwhile projects continue to receive congressional support.

Western water projects have been a sound national investment, and we must hope that the appropriations needed for reclamation continue. The Dolores Project cannot solve all the problems associated with water shortages in the Four Corners region, and we would urge that initial construction funds for the Animas-La Plata Project also be appropriated. In addition to providing water for the irrigation of an additional 70,000 acres, the Animas-La Plata Project would provide water for the emerging population centers of Durango, Colorado, and Farmington, New Mexico.

In the Dolores area we have had an opportunity to combine the interests of many groups, including our Ute Mountain Ute neighbors. While people all over the country enjoy the benefits of Mesa Verde National Park, which was at one time part of the Ute reservation, few people take the chance to evaluate the present needs of the Indian people in our region. We sincerely hope that the Dolores Project will someday be a monument to our foresight and cooperative efforts.

In conclusion, I would request that this committee recommend the appropriation of $43,586,000.00 for the continued construction of the Dolores Project.

O'NEILL UNIT, NEBRASKA—OPPOSITION

STATEMENTS OF ROBERT RAMM AND WESLEY SANDALL

Senator STENNIS. The next witnesses will be Mr. Robert Ramm and Mr. Wesley Sandall, on the O'Neill unit in Nebraska.

We are glad to have you here. This is an open forum, as you know. Those that are for or against or in between have a right to come here.

Mr. RAMM. Senator, we don't need the dam, we want you to save your money. I would like to submit this new alternative project on the Niobrara watershed project, which you have a map in front of you.

The first dam on Cedar Gulch Creek was completed January 1981 to the cost of $90,000 by private capital and Government aid. The goal of Niobrara watershed project was $50 to $100 million at a per-acre cost of around $1,000 per acre, water delivered by center pivots from dams.

Benefits from the first dam, which we call the pivot dam which was completed January 1981, was drinking water for three homes, water for large hog and cattle operation on the same farm, and five center pivots for corn and alfalfa. Benefits include water for 500 small to medium operators and 20 towns with 50,000 to 100,000 acres of heavy soil being irrigated. One hundred miles of small lakes for recreation, wildlife migration, resting area, livestock watering, controls erosion and silt into the main river, retains Nebraska's only white-water canoeing river, stabilizes farm and ranch income for a 100-mile-long area, raises water table throughout north Nebraska.

With over half of Nebraska wetlands being drained already for irrigation, 300,000 acres, and Nebraska in the direct path of north and south waterfowl migration, a spread out chain of small lakes in a food area is needed to control cholera which is killing thousands of ducks, geese, et cetera, each year in a crowded area of the few remaining wetlands in the State of Nebraska. If polled, we believe 95 percent of the people in Nebraska would support the new Niobrara watershed project.

The Niobrara watershed project will save the taxpayer and Federal Government upward of $300 million and irrigate double the acres over the proposed Norden Dam project.

Now, a few words on the Norden Dam drawback at the present time. It cost upward of $400 million with inflation and subsidized 3½ money. Cost per irrigated acre around $4,000 to $6,000 per acre for marginal land, raising 100 bushel corn at $6 to $8 per bushel. Present inflated price of $3 per bushel.

SILT AND EROSION

Niobrara River will fill dam in 25 to 50 years, rendering 77,000 acres useless as Spencer Dam on the Niobrara River, now filled with silt, is useless.

Ranchers on 80 miles of clay-lined canal have never had a vote or voice in building this canal through their ranches the past 20 years, and 35,000 acres of good land in the canal right-of--way will be destroyed, and wrecking operations of balanced ranches in the path of this main canal.

Proposed Norden Dam Lake will be 200 miles from populated area, mostly Omaha and Lincoln, Nebr. With the price of gas, people will use their own lakes in their backyards for recreation.

Norden Dam is proposed in an unstable area, where earthshaking and rumbling has been felt by pioneers of the area for many years. Norden Dam will end numerous center privot operations, pumping for 100 miles downstream for lack of streamflow.

Proposed Norden Dam would end Nebraskas only white water canoeing river now enjoyed by thousands of people throughout the Midwest, also destroying whooping crane resting area and bunch migration of waterfowl on to one lake. Waterfowl already are infected with cholera for being crowded into small areas for food and rest in Nebraska.

Omaha World Herald poll recently shows that only 17 percent of the people polled in Nebraska favor the proposed Norden Dam.

Senator STENNIS. Thank you very much. I would like to go out and look over the situation.

Mr. RAMM. We would like to show you this dam.

Senator STENNIS. Mr. Sandall, you will talk about the same unit?

Mr. SANDALL. I will talk about the same unit.

I am Wes Sandall. I am a rancher at Bassett, Nebr., and president of Save the Niobrara River Association, a group of ranchers and farmers in the project area. A legal authorized Norden Dam no longer exists, so Congress should deny the WPRS their budget request for $3.28 million for the 1982 fiscal year.

The WPRS has no safe plan for constructing a dam at the present site. A whole new dam design with over a $50 million increase in costs must be brought back to Congress for study and authorization. SNRA said that there were geologic problems at the damsite. A Federal judge agreed twice that the Bureau had not provided enough information on geology or dam safety. Sent back to the drawing boards for the third time in 1979 by the judge's ruling, the Bureau suddenly discovered the need to make a major design change that will cost over $50 million. In July 1980 an official in the Interior Department said that if it had not been for the Save the Niobrara River Association, that the Norden Dam more than likely would have been built and washed out by now.

The WPRS has made two mistakes on this project on dam safety already and it also parallels the same mistake as on the Teton Dam in Idaho. Who pays for the mistakes of the WPRS? The area residents pay.

The WPRS has not built a dam yet that will last 100 years. In Nebraska they do not have a project with a 100-mile-long main canal, built through sand and canyons; any sensible person can figure what will happen to the water in those conditions. In the first EIS they called for 28.2 miles of concrete-lined canal and 72 miles of earth-lined canal. In the last project data sheet they now call for 63.6 miles of concrete-lined canal. This additional concrete lining is not figured in the total cost of the project. It is just figured to be one of the items that makes for a higher cost overrun to have to go back to Congress and ask for more funds to complete the project after it is so far along Congress can't say no. Several syphons under streambeds are not on the project map. This will also call for more funds.

One statement by the WPRS is that they will be raising 191 bushels per acre of corn by the year 2000. It will more than likely be 119 bushels per acre. The Ainsworth project has been in since 1965 and has not achieved that goal yet and, in fact, the last three have lost 16 bushels per acre production. We had two seasons in this area that were above normal rainfall.

The Niobrara River on which the Norden Dam is proposed to be built depends on rainfall for its excess ground water that feeds it. In the dry years, such as last year and this one thus far, an irrigation project would be a failure because there would not be enough flow to supply enough water to irrigate 77,000 acres. In above-normal rainfall years there is a possibility that they could get enough, but it is not very often that we have above-normal rainfall.

The Holt County Independent Paper last week had ads of irrigated land for sale and the prices were quoted at only $900 per acre, fully developed and ready to go. Now the WPRS plans to just put water to the land at a cost to us taxpayers of $4,130 per acre.

Nebraska has several WPRS water projects and the biggest share of them are in trouble and deteriorating rapidly. The Miragae Flats has never had enough water to supply its needs. This one is on the Niobrara River. The Enders Reservoir on the Frenchman River is drying up and the WPRS has admitted that by 1991 it will be dry and not usable. The Harlan County Reservoir is drying up and Senator Curtis tried to get funds to help it out and did, but the money did not increase the water supply, just adding expense to it with no improvement.

Most of all these reservoirs and several others are drying up because the underground water that feeds the streams is being pumped out and drying up the streams. The same thing is happening on the Niobrara River and in a short time the Norden Dam would be worthless as an irrigation reservoir. There are USGS charts showing the declining flow of the Niobrara River. It has steadily declined during the past 12 years and even faster in the past 6 years.

I have dealt on the economics of this project before and now I have some more problems solved for you, to save on your valuable time. The interest rate on the O'Neill project is figured at only 3¼ percent, which is below the cost of even printing money. You keep saying that it is written in the authorization that it is set at 3¼ percent and can't be raised, but just remember that FHA, Federal Housing Administration interest rates can be changed any old time. Even the Congress can change and raise their pay rates, and I am quite sure that it would be a lot easier to raise project interest rates than Congressmen's pay.

I cannot leave this witness table before the Congress without firmly saying to you that my fundamental rights, and the rights of many others like me, have been insulted and trampled—all to build a misguided Bureau of Reclamation project. Thank you.

[The statement follows:]

Statement of Robert Ramm, Stuart, Nebr.

"Niobrara Watershed Alternative Project Design," completed March, 1981.

First Dam on "Cedar Gulch Creek" completed January 1981 -- cost $90,000.00. By "Private Capital and Government Aid". (Note Under Benefits)

Goal of Niobrara Watershed Project of 500 to 1000 Dams, total cost, 50 to 100 million dollars at a per acre cost of around $1,000 per acre, water delivered by "Center Pivots from Dams.

Benefits -- "Drinking Water for 3 Homes", "Water for Large Hog and Cattle Operation" on Same Farm and "5 Center Pivots for Corn and Alfalfa". Benefits includes water for 500 Small to Medium Operators" and "20 Towns, with 50,000 to 100,000 Acres of Heavy Soil being Irrigated". "100 Miles of Small Lakes for Recreation," "Wildlife Migration, Resting Area", "Livestock Watering," "Controls Erosion and Silt into the Main River". "Retains Nebraska's only White Water Canoeing River". "Stablizes Farm & Ranch Income for 100 mile long area". "Raises Water Table throughout North Nebraska".

With over Half of "Nebraska Wetlands" being drained already for Irrigation (300,000 Acres) and Nebraska in the direct path of "North and South Waterfowl Migration", a "Spread Out Chain of Small Lakes in a Food Area is needed to Control Cholera which is killing thousands of Ducks, Geese etc. each year in a Crowded Area of the few remaining wetlands in the State of Nebraska. If Polled, we believe 95% of the people in Nebraska would support the "New Niobrara Watershed Project".

The "Niobrara Watershed Project" will save the Taxpayer and Federal Government Upwards of 300 Million Dollars and Irrigate Double The Acres, over the Proposed Norden Dam Project.

NORDEN DAM DRAWBACK AT PRESENT TIME

Cost Upwards of $400,000,000. with inflation and subsidized 3½% money. Cost per Irrigated Acre around $4,000 to $6,000 per Acre for Marginal Land, raising 100 bushel corn at $6.00 to $8.00 per bushel. Present inflated price $3.00 per bushel.

Silt & Erosion Niobrara River will fill Dam in 25 to 50 years, rendering 77,000 Acres Useless as "Spencer Dam" on the Niobrara River, now filled with silt, is Useless.

Ranchers on 80 miles of "Clay Lined Canal" have never had a vote or voice in building this Canal through their ranches the past 20 years, and 35,000 acres of good land in the "Canal Right Away" will be destroyed, and wrecking operations of balanced ranches, in the path of this "Main Canal".

Proposed Norden Dam Lake will be 200 miles from populated area, Omaha & Lincoln Nebraska. With the price of gas, people will use their own lakes in their backyards for recreation.

Norden Dam is proposed, in an unstable area, where "earth" shaking, and rumbling has been felt, by pioners of the area for many years.

Norden Dam will end, numerous, "Center Pivot Operations", pumping for 100 miles down stream for lack of stream flow.

Proposed Norden Dam would end Nebraskas only "White Water Canoeing River", now enjoyed by thousands of people throughout the Middle West, also destroying, "Whooping Crane Resting Area" and bunch, "Migration of Waterfowl on to one lake. Waterfowl already are infected with Cholera. for being crowded into small areas for food and rest in Nebraska.

Omaha World Herald Poll, recently shows that only 17% of the people polled in Nebraska, favors the "Proposed Norden Dam".

COLORADO RIVER STORAGE PROJECT AND PARTICIPATING PROJECTS

STATEMENT OF PAUL L. BILLHYMER, EXECUTIVE DIRECTOR, UPPER COLORADO RIVER COMMISSION

Senator STENNIS. Are there any other persons present here who wish to testify on any other projects pending before this committee?

Mr. Billhymer, you haven't put your statement in the record yet. We will be glad to have your testimony.

Mr. BILLHYMER. I am Paul Billhymer, executive director of the Upper Colorado River Commission. We have submitted a statement to the staff. I also have submitted a statement on behalf of the State of New Mexico, with the request that both be included in the official record.

I will make no further comment.

Senator STENNIS. That is very kind. That is splendid cooperation. We thank you very much. Your statement will be admitted for the record and New Mexico's also. We feel they will be worth while.

[The statement follows:]

STATEMENT OF GOV. BRUCE KING OF NEW MEXICO

SUMMARY

This statement is submitted in support of appropriations for the construction of water resource projects authorized to be built by the Water and Power Resources Service and the Corps of Engineers, for project operation and maintenance by these agencies and for project investigations by these agencies.

In general, I support the President's fiscal year (FY) 1982 budget proposals for water resources. I support appropriations in addition to the amounts proposed by the President for the Animas-La Plata Project-Colorado and New Mexico. The President's FY '82 budget does not include any money for this project. It is requested that $2.9 million be included in the FY '82 budget to initiate construction activities on this project. The Water and Power Resources Service has, in consultation with Colorado and New Mexico and with local entities who would be the immediate beneficiaries of the project, selected a plan to regulate and deliver the project water supply to the areas of use, and all work on the final environmental impact statement and the definite plan report has been completed. The project is ready for construction in all respects and there is a great need for additional water in this area of the states where oil, gas, uranium and coal development for energy is underway.

STATEMENT

WATER AND POWER RESOURCES SERVICE

Colorado River Storage Project And Participating Projects

The Colorado River Storage Project Act which became law in 1956 authorized a carefully planned and farsighted program for the development and use of waters of the Upper Colorado River Basin. To carry this program forward the President has recommended that $154,452,000 be appropriated to the Water and Power Resources Service. This proposal includes $208,000 for New Mexico's San Juan-Chama Participating Project. Construction on this project was begun in 1964 and is continuing. The FY '82 program provides for minor modifications to the waterflow control system and the outlet works at Nambe Dam.

The President's FY '81 budget does not include funds for the Animas-La Plata Project in New Mexico and Colorado which was authorized in 1968 by P.L. 90-537. The Water and Power Resources Service has, in consultation with Colorado and New Mexico and with local entities who would be the immediate beneficiaries of the project, selected a plan to regulate and deliver the project water supply to the areas of use, and all work on the final environmental impact statement and the definite plan report has been completed. The project is ready for construction in all respects and there is a great need for the additional water supply which will be made available by the project in this area of the states where oil, gas, uranium and coal development for energy is underway. It is urged that at least $2.9 million be appropriated in FY '82 in order that construction can be initiated and proceed in an orderly and economic manner.

I also urge that appropriations for other units in the Upper Basin states be adequate for orderly project development at an economic rate.

Carlsbad Irrigation Project

The sum of $350,000 is proposed in the President's FY '82 budget to continue the program of rehabilitation work on the laterals and sublaterals in the Carlsbad Irrigation Project distribution system. The work, which will be done by the Carlsbad Irrigation District under the Rehabilitation and Betterment Act, will conserve water in the District. I support this proposal.

Brantley Dam and Reservoir

The President's FY '82 budget includes $1.0 million for preconstruction activities on the Brantley Project in the Pecos River Basin. The Brantley Dam and Reservoir Project was authorized for construction by the Water and Power Resources Service by P.L. 93-914 in 1972. The basic purpose of the project is the protection of life and property in the vicinity of the City of Carlsbad. The dam would replace the unsafe McMillan Dam which was reconstructed by the U.S. Reclamation Service in 1908 and would provide additional capacity for the storage of flood waters. One percent of the project cost is allocated to irrigation, five percent of the cost is allocated to recreation, fish and wildlife purposes and two percent of the cost is allocated to highway relocation; the balance of the cost is allocated to safety of structures and flood and sediment control. I support the President's budget for this urgently needed project.

Central Arizona Project

The Colorado River Basin Project Act P.L. 90-537, enacted in 1968, authorized construction of the Central Arizona Project in Arizona and New Mexico. The President's FY '82 budget proposes $186,500,000 for this project. I support this request for funding for the Central Arizona Project. The Hooker Dam and Reservoir or suitable alternative in southwestern New Mexico is authorized for construction as a part of the Central Arizona Project. The President's proposal includes $600,000 to continue preliminary studies on Hooker Dam and Reservoir or suitable alternative. I fully support the President's budget proposal for study of New Mexico's portion of this important project.

Colorado River Basin Salinity Control Project - P.L. 93-320, Title I

The President's FY '82 budget includes a total of $21,700,000 for continued construction on the Yuma-Desalting Plant and related facilities. I fully support the budget proposal for this program.

Colorado River Basin Salinity Control Project - P.L. 93-320, Title II

The President's FY '82 budget includes $9,251,000 for continued construction and advance planning of three authorized salinity control units of the project, Grand Valley Unit ($7,713,000), Paradox Valley Unit ($1,448,000) and Las Vegas Wash Unit ($90,000). I fully support the budget proposal for this program.

Closed Basin Division, San Luis Valley Project, Colorado

The President's FY '82 budget includes $2,538,000 to be used for continued drilling and development of deep wells for Stage 1-2. The program also includes award of a contract for drilling and developing deep wells for Stage 3. Design work will continue on Stage 1-2 canals, laterals, transmission lines and substations. Archeology survey, testing and mitigation will also continue. The project will facilitate Colorado's deliveries of Rio Grande water to downstream states in compliance with the Rio Grande Compact. I fully support the budget for this project.

General Investigations

The proposed Water and Power Resources Service program also includes general investigations of interest to New Mexico. These include:

(1) $175,000 to continue a feasibility study authorized by P.L. 95-578 for rehabilitation and possible raising of Santa Cruz Dam;

(2) $4,125,000 for continuing investigations under the Colorado River Water Quality Improvement Program;

(3) $240,000 for Environmental and Interagency Coordination Activities in New Mexico;

(4) $33,000 to continue the Llano Estacado Total Water Management Study, a special investigation of the water resources problems of the High Plains region of west Texas and eastern New Mexico;

(5) $275,000 to study the hydropower potential at existing facilities in New Mexico;

(6) $87,000 for minor work in connection with completed project investigations in New Mexico;

(7) $80,000 to provide technical assistance to the state in the form of expertise in hydrology, engineering or other disciplines to aid the state in water resources planning;

(8) $250,000 to continue an appraisal investigation of the water and mineral resources of the Tularosa Basin.

I support funding for a total of $5,265,000 for the general investigations described above.

CORPS OF ENGINEERS

Santa Rosa Dam and Reservoir

The Santa Rosa Dam and Reservoir, formerly known as Los Esteros Dam and Reservoir, located on the Pecos River about seven miles upstream from the Town of Santa Rosa, was completed in 1979. The President's FY '82 budget proposes $3,300,000 to continue with the spillway modifications necessitated by the revised spillway design flood. I fully support the President's budget for this project.

Rio Grande and Tributaries Rio Puerco, Rio Salado, N.M.

The President's FY '82 budget includes $140,000 to complete Phase 1 preconstruction planning of the authorized Rio Puerco-Rio Salado Project which will provide much needed flood and sediment control in the Rio Grande Basin. I fully support the President's budget for this program.

Santa Fe River and Arroyo Mascaras

The President's FY '82 budget includes $50,000 to continue preconstruction planning of this authorized project which will provide flood protection for the City of Santa Fe. I fully support the President's budget for this project.

Rio Grande Floodway, Truth or Consequences Unit

The President's FY '82 budget includes $120,000 to continue preconstruction planning of the Rio Grande Floodway, Truth or Consequences Unit. The authorized project will provide flood protection for the Town of Truth or Consequences. I fully support the President's budget for this project.

Authorized Surveys

The President's FY '82 budget includes $750,000 for the Corps of Engineers to proceed with the authorized survey - Rio Grande and Tributaries, New Mexico and Colorado. Four hundred and sixty-five thousand dollars of the total is budgeted to continue a review survey to determine flood control, drainage, and related problems and the feasibility of providing improvements for solution of these problems along the Rio Grande above El Paso, Texas. The budgeted amount also includes funds for study of hydroelectric power potential at Cochiti Reservoir, flood control at Grants, New Mexico and Alamosa, Monte Vista and Del Norte, Colorado and study of Abiquiu Reservoir and Rio Chama downstream to its confluence with Rio Grande. The latter study is urgently needed to determine what measures can be taken to modify the Abiquiu Dam and Reservoir project to allow storage of water for conservation and to increase the capacity of Rio Chama below Abiquiu Dam from 1,700 cfs to 4,000 cfs, to improve river regulation and protect adjacent property.

The President's FY '82 budget includes $200,000 for the Corps of Engineers to continue its investigation - Gila River and Tributaries upstream from Camelsback Dam Site, Arizona and New Mexico. The investigation is to survey the feasibility of providing solutions to the flood control problems in the area.

The President's FY '82 budget proposes $500,000 to continue the investigation - Colorado River and Tributaries above Lee Ferry, Arizona, which includes $440,000 for the investigation of the San Juan River and Tributaries. This investigation is being conducted to determine the feasibility of constructing improvements for flood control and related resource purposes within the San Juan River Subbasin of the Colorado River Basin above Lee Ferry, Arizona.

I fully support the President's budget for these authorized surveys.

CONCLUSION

The excellent water resources planning and development work being done by the Water and Power Resources Service and the Corps of Engineers in New Mexico and adjacent states is essential to the welfare of the State and the Nation. I sincerely appreciate the opportunity to present this statement in support of appropriations for the work of these agencies.

STATEMENT OF PAUL L. BILLHYMER, EXECUTIVE DIRECTOR, UPPER COLORADO RIVER COMMISSION

I am Paul L. Billhymer, Executive Director of the Upper Colorado River Commission, Salt Lake City, Utah.

Mr. Chairman, the four States of the Upper Colorado River Commission, Colorado, New Mexico, Utah, and Wyoming, are united in their support of a constructive and progressive water resources development program in the Upper Colorado River Basin for fiscal year 1982. Our interested water people appreciate the privilege of appearing before this subcommittee in support of appropriations of funds to continue the construction and operation of the Colorado River Storage Project and participating projects.

Summary of Specific Action Requested

Appropriations of funds recommended by the representatives of the States of Colorado, New Mexico, Utah, and Wyoming for the Colorado River Storage Project and participating projects.

Representatives of each of our member States will be presenting testimony to this subcommittee in support of those appropriation requests that reflect the official position of each State with respect to water resource projects and programs involving the Colorado River Storage Project and participating projects. Such specific requests will not be repeated here. The Commission supports the appropriation requests submitted by representatives of the member States with respect to water resource projects and programs involving the Colorado River Storage Project and participating projects. We urge the funding of a viable water resources development program in the Upper Colorado River Basin inasmuch as such projects are capital improvements which have national benefits.

Mr. Chairman, on behalf of the Upper Colorado River Commission, thank you for this opportunity to present this statement for the Committee's consideration.

SUBCOMMITTEE RECESS

Senator STENNIS. Is there anyone else here that wishes to testify?

[No response.]

Senator STENNIS. All right. That seems to conclude the list.

The hearing will be closed until tomorrow morning at 10 a.m., in the same room.

[Whereupon, at 3:10 p.m. Wednesday, March 25, the subcommittee was recessed to reconvene at 10 a.m. Thursday, March 26.]

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